3RD ANNUAL SOFTWARE BUYER'S GUIDE p. 21

AMIGA WORLD

December 1989
U.S.A. $3.95
Canada $4.50
UK £2.50
An IDGC/I Publication



SOFTWARE BONANZA!

Over 950 Amiga Applications Programs

PLUS!

- Quality Slideshows Made Easy
- Maximize Your Amiga Memory
- Best Software of 1989
- Reviews, Games & More

12

0 74470 65948 8

Just The Facts:

What Makes Digi-Paint 3 the Ultimate Paint Program?



"Finding the best paint program for your Amiga can be confusing, but once you have the facts it's simple."

Laura Longfellow
Sales Manager
NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"



Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3 – including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting – are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is hard to beat!"

"What makes Digi-Paint 3 better than other HAM paint programs?"

Digi-Paint 3 is the only Amiga paint program written in 100% assembly language. Although challenging to program (taking up to 10 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: anti-aliased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"



"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind – from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, 11 hands-on tutorials, a color coded reference card, and almost one hundred example photos.

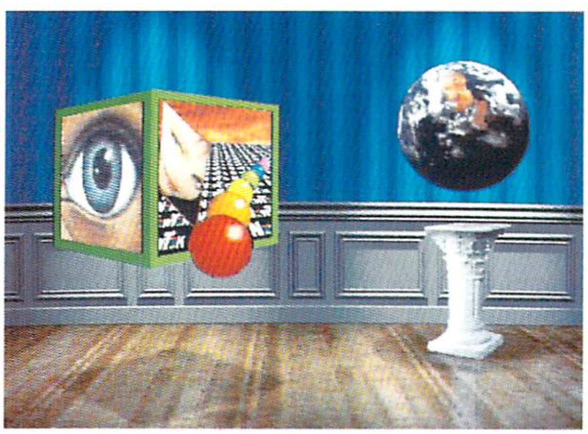
Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".





"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over your final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."



"What technical support does NewTek offer?"

Digi-Paint 3 has one other thing you won't find in any ordinary paint program: a toll-free help line. If you should have any questions while using Digi-Paint 3, you're not on your own. Call NewTek's technical support team at 1-800-736-7617 Monday through Friday, 8 am -7 pm Central Time.

Digi-Paint 3 is available now at your local Amiga dealer or call **1-800-843-8934** or **1-913-354-1146.**

Circle 102 on Reader Service card.

NEWTEK
INCORPORATED

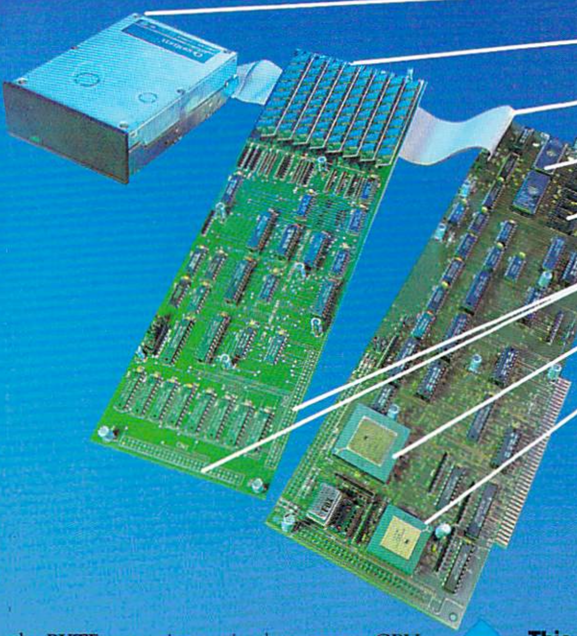
Before you buy an A2500

READ THIS FIRST!

(or before you even add a hard drive to your A2000)

Christmas Special
Free copy of **Turbo Silver 3.0** with purchase of A3001 upgrade kit

Upgrade your A2000 to an "A3000 (PLUS 1)" TODAY! With the 25Mhz 68030, A3001 Upgrade Kit from GVP



Q What is the A3001 Upgrade Kit from GVP?

A The A3001 Upgrade Kit includes the following:

- 25Mhz 68030 accelerator board for the A2000.
- Factory installed 25Mhz 68882 Floating Point Processor.
- 4 or 8MB of 32-bit wide high performance 80ns NIBBLE MODE DRAM.
- Built-in AUTOBOOTing HIGH PERFORMANCE hard disk controller.
- Quantum 40MB or 80MB hard disk drive with an average read access time of 11ms (19ms on write) and 64KB read-ahead cache. If you already own a hard disk, this item can be optional.

Q What does the A3001 really do for my A2000?

A The A3001 provides the following, UNBEATABLE and UNMATCHED features:

- The world's fastest (and shipping in volume!) accelerator board for the Amiga.® The 68030 CPU includes an on-chip MMU and separate data and instruction caches. According to a recent review in the German "Amiga Magazin," performance is between TWO AND THREE TIMES FASTER THAN THE A2500.
- One of (we are being modest!) the world's fastest hard disk controllers. Measured with "diskperf2," data transfer rates of well over 700KB/sec are achieved. Of course this is not surprising as the hard disk controller is built-in directly on the 32-bit bus of the 68030 accelerator board!
- The up to 8MB of 32-bit wide DRAM is fully DMA-able (can be directly accessed by any DMA device) and is automatically AUTOCONFIGured. The A2500 is limited to only 4MB of (slower) 32-bit wide DRAM.
- GVP's unique DRAM design uses state-of-the-art 80ns NIBBLE MODE DRAMs, which allows full support and advantage to be taken of the 68030's BURST mode. In fact during burst mode, this amazing design manages to achieve an average of ZERO WAITSTATES even at 25Mhz! This DRAM design is similar to that used in Steve Jobs' NeXT® machine, although that design (according to the BYTE magazine review) uses more CPU waitstates at 25Mhz!
- 68000 fallback mode allows the 68030 CPU to be disabled, to ensure full compatibility with timing sensitive applications (e.g.: some game programs).
- Sockets are included for 68030 BOOT EPROMs, allowing future flexibility for running other operating systems.
- GVP's unique ASYNCHRONOUS design means that the 68030 has its own dedicated oscillator and runs completely ASYNCRONOUS to the rest of the A2000. This means better GENLOCK compatibility (not as sensitive to motherboard clock source) as well as providing the ability to run at any clock speed completely independently of the A2000 motherboard, limited only by the access speed of the DRAMs being used.
- For the REAL, math intensive, number-crunching fanatics there is an optional oscillator socket, allowing the 68882 FPU to be independently clocked at even higher speeds (e.g.: 33Mhz).
- ZERO SLOT SOLUTION! With the full-blown configuration installed (25Mhz 68030 & 68882, 8MB of 32-bit wide RAM and one or two AUTOBOOTing 40MB or 80MB hard disks), the A3001 STILL LEAVES ALL THE A2000 EXPANSION SLOTS FREE FOR FUTURE EXPANSION! The only slot in the A2000 which is used is the Co-processor/CPU slot. An equivalently configured A2500 would use an additional TWO valuable expansion slots!

Q This sounds great, but what if I can't afford to buy the full A3001 kit now and all I need urgently is a hard disk drive for my A2000?

A GVP also offers an "a la carte" approach to purchasing the A3001 kit. For example if you are about to purchase a hard disk drive and controller for your A2000, for only a little more you could instead buy the GVP 25Mhz 68030 accelerator board with its built-in AUTOBOOTing hard disk controller and the 40MB hard disk (suggested list price for both is only $1495). You would obviously not get the full performance increase mentioned above, until you added our 32-bit wide RAM daughterboard and the 68882 FPU. However, in this case your initial hard disk outlay is not lost and it can be regarded as a "down payment" on your full-blown 32-bit workstation! If you are working on a REALLY tight budget, call us and ask about our "A2501" upgrade kit for the A2000, which outperforms the A2500 with its 16Mhz 68030! This is also available in "a la carte" form!

Q Why did GVP call this the A3001 upgrade kit?

A The A3001, stands for "A3000 PLUS 1"! Yes, we believe that this solution offers everything the "A3000" may offer PLUS...!

Why wait, upgrade your A2000 to an A3001 today!

GVP

GREAT VALLEY PRODUCTS INC.
225 Plank Ave., Paoli, PA 19301

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.

Tel. (215) 889-9411 • FAX (215) 889-9416 • BBS (215) 889-4994

ealers Circle 36 on Reader Service Card

Consumers Circle 265 on Reader Service Card


DON BLUTH'S
SPACE ACE®
Ace is being attacked by the evil commander Borf who plans to take over the Earth by using his dreaded weapon . . . the Infanto Ray. Only you can guide Ace through treacherous battles to destroy the Infanto Ray, save Earth and rescue the beautiful Kimberly.
Space Ace,® the arcade follow-up to Don Bluth's Dragon's Lair® is now available for your Amiga® with the breathtaking full-screen animation and digitized sound of the original laser-disk game. Improved compression techniques allow Space Ace® to run in 512K with more than three times the number of scenes found in Amiga Dragon's Lair®
Available from your local dealer or ReadySoft. Only $59.95.
Actual Amiga® screens
Also available or coming soon for Atari ST, IBM, Macintosh, Apple IIGS, and Commodore 64.
ReadySoft Inc.
30 Wertheim Ct#2
Richmond Hill, Ont.
Canada L4B 1B9
Tel (416) 731-4175
Fax (416) 764-8867
Dragon's Lair, Space Ace and Bluth Group, Ltd. are registered trademarks owned by and used under license from Bluth Group Ltd.; © 1989 Bluth Group Ltd.; Character Designs © 1983 Bluth Group, All rights reserved; Space Ace programming © 1989 ReadySoft Incorporated.
Circle 87 on Reader Service

·C·O·N·T·E·N·T·S·



Our Amiga shopper (above) is having enough trouble with one bag of Amiga software. . . what would he do with the dozens needed to cart away the nearly 1000 applications programs in our 3rd Annual Amiga Software Buyer's Guide? Fortunately for our readers, we've taken a lot of the hassle out of getting a handle on the ever-growing Amiga software market. We hope the Guide saves you some time ***and*** *money in your own shopping—for the Holidays and right on through next year. Bon appetit!*

COVER PHOTOGRAPH BY ED JUDICE

STEPHEN ROBBINS, *Publisher*

DOUGLAS BARNEY, *Editor-In-Chief*
DAN SULLIVAN, *Executive Editor*
SHAWN LAFLAMME, *Managing Editor*
LOUIS R. WALLACE, *Senior Editor, Technology*
LINDA J. BARRETT, *Acquisitions Editor*
BARBARA GEFVERT TYSON, *Review Editor*
JAN JACKSON, *New Products Editor*
TIM WALSH, *Technical Editor*
GENE BRAWN, BILL CATCHINGS, DAVID T. MCCLELLAN, MARK L. VAN NAME, *Contributing Editors*

HOWARD G. HAPP, *Art Director*
ANNE DILLON, *Designer*
LAURA JOHNSON, *Designer*
ALANA KORDA, *Production Supervisor*

KENNETH BLAKEMAN, *National Advertising Sales Manager*
MICHAEL MCGOLDRICK, *Sales Representative*
BARBARA HOY, *Sales Representative*
HEATHER PAQUETTE, *Associate Sales Representative, InfoMarket Sales, 1-800-441-4403, 603-924-9471*
LINDA M. BUSSIERE, *Advertising Coordinator*
GIORGIO SALUTI, *Associate Publisher, West Coast Sales 1-415-328-3470*
3350 W. Bayshore Road, Suite 201 Palo Alto, CA 94303
SHELLEY HARMON, *Associate Sales Representative, InfoMarket Sales, 415-328-3470*

WENDIE HAINES-MARRO, *Marketing Manager*
LAURA LIVINGSTON, *Marketing Coordinator*
MARGOT L. SWANSON, *Advertising Assistant*
LISA LAFLEUR, *Executive Assistant to the President*

SUSAN KANIWEC, *Customer Service Representative*
Publishers Assistant

PAUL RUESS, *Circulation Director*
PAM WILDER, *Assistant Circulation Manager*
800-365-1364

ROGER J. MURPHY, *President*
STEPHEN D. TWOMBLY, *Executive Vice President/Publishing Director*

DENNIS S. CHRISTENSEN, *Vice President of Manufacturing/Operations*
LINDA PALMISANO, *Typesetting Manager*
DEBRA A. DAVIES, *Typographer*

SUSAN GROSS, *Corporate Production Manager*
LYNN LAGASSE, *Manufacturing Manager*

LINDA RUTH, *Single Copy Sales Director*
JOHN T. CHILDS, *Single Copy Sales Manager 800-343-0728*
DEBBIE WALSH, *Newsstand Promotion Manager*

WILLIAM M. BOYER, *Director of Credit Sales & Collections*

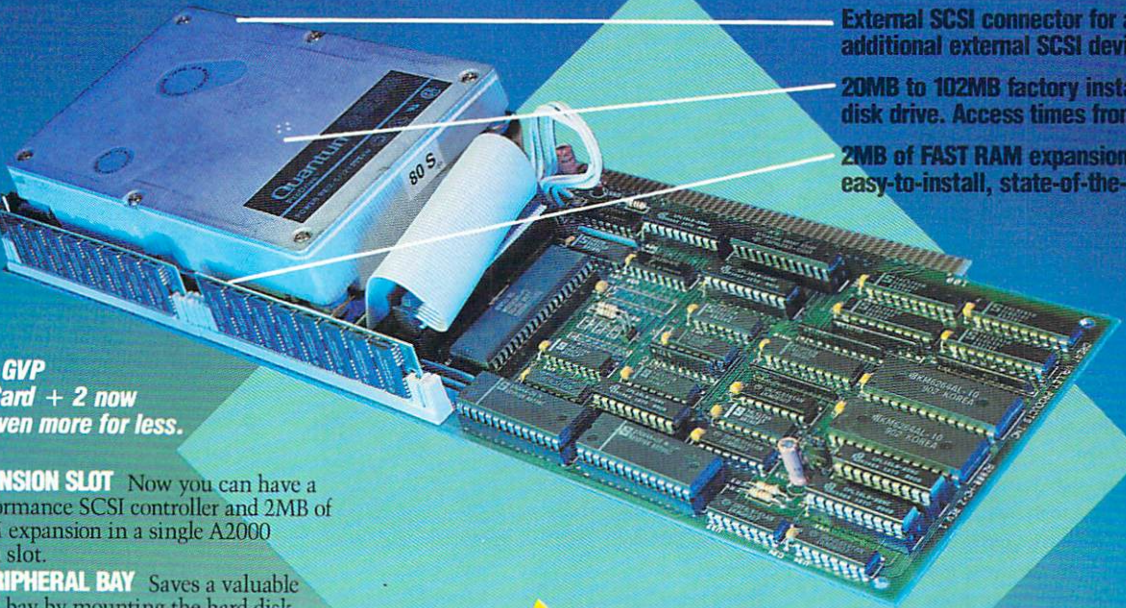
AmigaWorld (ISSN 0883-2390) is an independent journal not connected with Commodore Business Machines, Inc. *AmigaWorld* is published monthly by IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458. U.S. subscription rate is $29.97, one year; $46.00, two years; $64.00, three years. Canada $38.97 (U.S. funds), one year only. Mexico $38.97, Foreign Surface $49.97, Foreign Airmail $84.97 (prepayment is required on Foreign Surface and Airmail subscriptions in U.S. funds drawn on U.S. bank). All rates are one-year only. Second class postage paid at Peterborough, NH, and at additional mailing offices. Phone: 603-924-9471.

Postmaster: Send address changes to *AmigaWorld*, Subscription Services, PO Box 58804, Boulder, CO 80322-8804. Nationally distributed by Kable News Co. *AmigaWorld* makes every effort to assure the accuracy of articles, listings and circuits published in the magazine. *AmigaWorld* assumes no responsibility for damages due to errors or omissions.

Hard-Disk-On-A-Card

THE BEST JUST GOT BETTER

Now we have added 2MB of Zero-Waitstate FAST RAM Expansion to our best-selling Hard-Disk-On-A-Card!



The Proven GVP Hard-Disk-Card + 2 now gives you even more for less. Compare:

SAVES EXPANSION SLOT Now you can have a high performance SCSI controller and 2MB of Fast RAM expansion in a single A2000 expansion slot.

SAVES A PERIPHERAL BAY Saves a valuable peripheral bay by mounting the hard disk directly (flush) on the SCSI/RAM controller board.

PERFORMANCE With close to 10,000 Amiga hard disk controllers installed, our performance and reliability needs no further explanation. Our unique DMA direct to onboard 16KB buffer has received rave reviews around the world. Don't ask us, just ask one of our many satisfied customers! Very FAST AUTOBOOTing directly off a hard disk FAST FILE SYSTEM partition, is a standard feature.

EXPANDABILITY By saving both a valuable expansion slot as well as a scarce peripheral bay, your Amiga retains maximum expandability.

FLEXIBILITY With our optional Advanced AUTOBOOT EPROMs, we fully support removable media devices (e.g.: Syquest and Bernoulli drives) with our unique "AUTO-DISKCHANGE" feature.

PRICE Priced less than most single function controllers. No matter how you look at it you get unbeatable value. Look at the 2MB FAST RAM expansion capability as an (almost) free bonus.

QUALITY All GVP products are backed by our full one year warranty.



IMPACT WT-150 Streaming Tape Backup

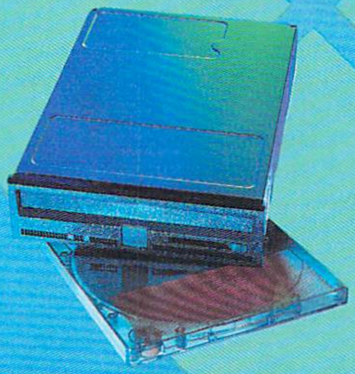
Experienced computer users know the importance of making regular backups. A typical 40MB hard disk will take over FORTY-FIVE 880K floppy disks to back-up. The job can easily take over an hour of repetitive disk swapping. There is a better way!

The NEW GVP IMPACT WT-150 Streaming Tape Backup product offers a high capacity (150MB), high speed, streaming tape drive bundled with probably the best and most flexible backup tape software utility in the industry. This incredible piece of software, which we have called *TapeStore,*™ makes backups simple, interesting and exciting.

TapeStore can back-up and restore everything from individual files (File-by-File mode) to entire disk partitions (Disk Image mode). Support for the portable, industry standard, Unix tape format (tar) is planned for the near future.

TapeStore is designed for novices and experts alike: it can be run from the workbench or the CLI. It can be operated using a few simple mouse clicks for daily back-ups, or used to create archive tapes for transferring large amounts of information between machines. Anyone can supply a piece of hardware but ONLY GVP provides the TOTAL SOLUTION. Once again GVP has come up with a winner!

Removable Hard Drive
44MB Removable Storage



GVP

GREAT VALLEY PRODUCTS INC.
225 Plank Ave., Paoli, PA 19301

Amiga is a registered trademark of Commodore-Amiga Inc.
IMPACT and GVP are trademarks of Great Valley Products, Inc.
TapeStore is a trademark of Great Valley Products, Inc.

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.

Tel. (215) 889-9411 • FAX (215) 889-9416 • BBS (215) 889-4994

alers Circle 145 on Reader Service Card

Consumers Circle 62 on Reader Service Card

CHIEF CONCERNS

Keep your distance from the Big Blue crowd.



TALKIN' 'BOUT YOU! If you can at all help it, never go to a computer show that focuses on the IBM PC. Don't even go near areas where IBM-PC users gather. And, while we're on the subject, watch out for new users of Apple's Macintosh. Both of these types wear bland suits, red ties, and throw around terms like data processing and information management. Listening to them talk about their machines will put you to sleep faster than the Pat Sajak Show.

They're the dull people in what is billed as the most exciting business in America. IBM owners are the worst. Their brains think in terms of rows and columns, and their greatest fear is departing from corporate standards.

Macintosh users are pretty much the same, except they feel superior because their machines have the advantage of sluggish black-and-white graphics, and cost big bucks. Many are also self-satisfied yuppies who drone on about vintage wine, Brie, and spreadsheets.

Amiga owners are different. They are cool. They are smart. They have class.

It's simple, really. Macintosh and IBM PC users buy the machines to crunch numbers, store data, or produce documents. You can do all this, and still not have a creative bone in your body, or much of a brain. Amiga owners tend to have fully formed brains that include both logic and creativity. That is why they bought a machine that Apple and IBM dolts still consider to be obscure.

Before joining *AmigaWorld*, I talked to plenty of the PC types. They get all excited about simple little things like new spreadsheet macros and pull-down menus. I also talked to plenty of Macintosh types. They are even more excited about things like task switching and new programs that support color. Whoopdy-doo.

I managed to survive, and with my health intact, entered the Amiga market. Now I talk to Amiga types who deserve to be excited. Their machines are not only fun to use, but are a perfect tool for creative expression. Words can pour out, and blend with graphics, which can be animated and mixed with captured video images. And if you just feel nasty, boot up a game and blow away some punks or blast away aliens in the outer reaches of space.

Either way is alright by us.

Amiga types also seem to lead more interesting lives. Many are musicians, and we know how wild a life that can be. Others are artists pushing images, lines and color around a screen while PC types push their drab numbers through mazes of rows and columns. And there are video professionals doing a job the majority of Americans would die for; working with stars and creating products seen by millions.

Amiga professionals have an entirely different notion of computing. Rather than seeing the limits of their systems, they think in terms of potential. And when they show others what they've done, the common response is, "I didn't think that was possible." It is, on the Amiga.

I've also met people who bought Amigas for the home. These are also special people. They realized that the machine can entertain, educate, process words, crunch numbers, all at the same time. Instead of writing letters and playing appallingly slow and ugly MS-DOS games, Amiga home users spice up videos, do low-level animation, compose music, produce wondrous graphic images, and play the most sophisticated computer games ever made. Yes, computers can indeed be fun.

All these Amiga owners share one thing: They love their machines. They should, because the Amiga is a nearly pure extension of their creative thought. And it's cheap.

Apple and IBM are trying to make their systems appropriate for creative applications. But they are only paying lip service to graphics, multimedia, and animation. Let's face it. Some things can't change, and the boredom factor of the Apple and IBM markets is one of them. ■

Attention:

AMIGA 500 USERS

The Ultimate Expansion Tool
Now More Expandable Than Ever!

NEW!
★ Double the Memory Expansion (up to 4MB!)
★ Autoboot Now Free



HARD DISK DRIVE
SCSI 3.5″ Hard Disk Drive, available from 20MB to 102MB, capable of storing up to 116 floppy diskettes.

HARD DRIVE CONTROLLER
DMA direct to onboard 16KB buffer, provides A2000 performance with no DMA side effects.

86 PIN CARD EDGE CONNECTOR
This compact snap-on unit connects directly to the Amiga bus, ensuring the highest possible performance and reliability.

AUTOBOOT FEATURE
Allows the A500 to be booted directly off the hard disk, no floppies required! All hard disk partitions can be Fast File System partitions.

RAM EXPANSION
Up to 4MB of ZERO-WAITSTATE, FAST RAM can be added internally.

EXTERNAL SCSI CONNECTOR
Allows up to six additional SCSI devices to be attached.

DEDICATED POWER SUPPLY
Robust power supply is included so that your A500 is not over-loaded.



GVP

Amiga is a registered trademark of Commodore-Amiga Inc.
IMPACT and GVP are trademarks of Great Valley Products, Inc.

GREAT VALLEY PRODUCTS INC.
225 Plank Ave., Paoli, PA 19301

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 889-9411 • FAX (215) 889-9416 • BBS (215) 889-4994

ealers Circle 245 on Reader Service Card

Consumers Circle 127 on Reader Service Card

REPARTEE

Comments, complaints, and concerns

from AmigaWorld *readers.*

BOOTING FROM RAD:

IN "RAM Returns: Making Memory Pay Off" [info.phile, Oct. '89, p. 66], the authors state that you must remove your Workbench disk from the internal drive prior to rebooting, because the Amiga will always try to boot first from any disk there.

I have discovered that this is not true. By changing the MOUNTLIST entry for RAD: and assigning BootPri=127, the Amiga will boot from RAD: whether there is a disk in DF0: or not.

I proved this by replacing my Workbench disk with several other bootable disks (including games) and rebooting. Each time, the Amiga booted from RAD: and *not* the disk in DF0:. It did check the disk in DF0:, but it never booted from it.

Joseph M. Puffer
Great Lakes, IL

RUNNING XENIX

I USED TO have two computers in my home—one, of course, was the Amiga, and the other was a Compaq 286AT. The Amiga was for games and all the "neat stuff," and the Compaq was for work. When the A2286D Bridgeboard was announced, I hoped that it would allow me to eliminate the Compaq and use the Amiga for work.

There was, however, one catch. For work, I had to be able to run Xenix (a port of Unix to the smaller machines). I was extremely pleased with the helpful people at Commodore; their customer-support line worked very well. The technical personnel were knowledgeable about Xenix, and assured me that it would run on the A2286D Bridgeboard. I was also pleased with the ease of installing, setting up, and using the Bridgeboard.

The Bridgeboard was a success. I have now totally eliminated the Compaq. I have the Amiga 2000 running music, graphics, games, etc., and the Bridgeboard running Xenix.

Although the rumors have been flying fast and furious about a Unix port to the Amiga, I was not able to wait for this to happen. With the A2286D Bridgeboard, I didn't have to.

Hubert E. Samm, Jr.
Belleville, IL

TAKING IT SERIOUSLY

PETER WESSON'S response ["Joy of Computing," Repartee, Oct. '89, p. 8] to a previous letter of mine ["Saturday Night Amiga," Repartee, June '89, p. 8] was well-taken; however, if Peter rereads my letter, he won't find any direct references to Amiga game users. There is, indeed, no single use for a personal computer, but the highly touted Amiga was originally promoted for its ability to produce graphics and animation in a "serious" way. Clearly, you can buy games for the IBM PC, but few consider it to be a "game" machine.

My problem is with the general lack of respect that the public has for the Amiga. To many, it's just another game computer, and this is certainly not the image that people have of the IBM PC or the Macintosh.

Mr. Wesson can play Pac-Man on the Amiga to his heart's content, yet if the Amiga goes the way of the C-64 or Atari ST because of the growing dominance of the game market, then all who are interested in the Amiga for other reasons will suffer the loss.

We'll be saying: "There goes another great American idea. . ."

Mr. Grove
Chicago, IL

THE HIGH PRICE OF GREED

SOFTWARE COMPANIES always say that their prices are high because of piracy. I know, as everyone does, that a lot of pirates are out there, but if by some miracle all piracy stopped, I do not believe that the software companies would bring down their prices. Look at Nintendo (I know this is a bad example): They have little if any piracy to deal with, but they still charge $45–$60 for a game.

I believe that if all piracy stopped, prices would stay the same for one simple reason: People are greedy! I am not a pirate and do not support piracy, but I wish that these software companies would stop trying to cover up their greed by blaming high prices on pirates.

Lee Christopher Wise
FPO, New York, NY

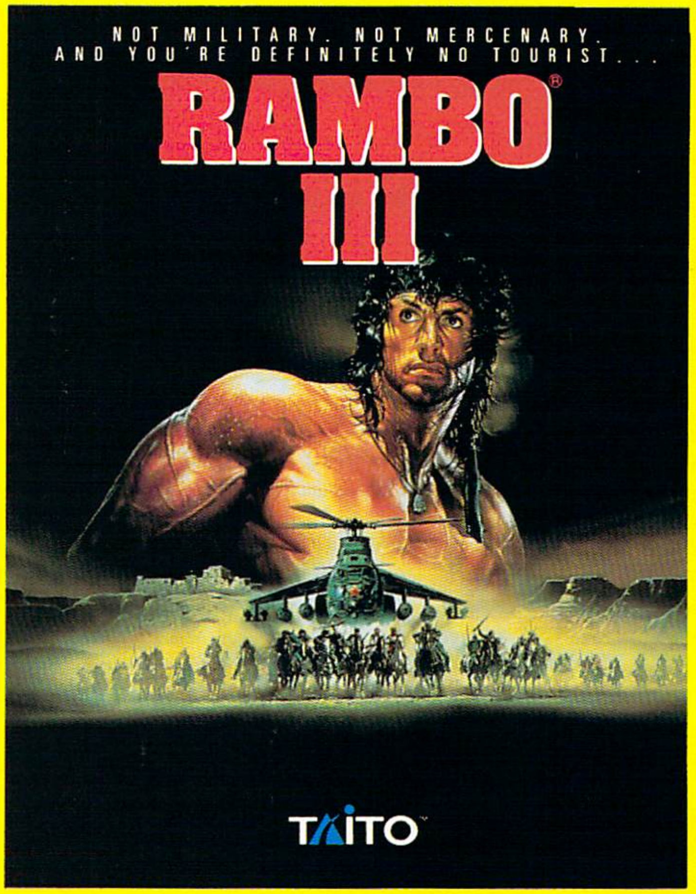
CORRECTION

GREAT VALLEY PRODUCTS' address was listed incorrectly in "Pick a Path" (Nov. '89, p. 70). The correct address is 225 Plank Ave., Paoli, PA 19301.

Send your letters to: Repartee, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

RAMBO® III

NOT MILITARY. NOT MERCENARY. AND YOU'RE DEFINITELY NO TOURIST...

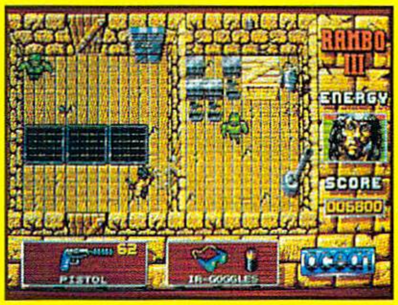


SOVIET COMMANDER: "WHO ARE YOU?"

RAMBO: "I'M YOUR WORST NIGHTMARE."

Remember that line? Now YOU can deliver it to the enemy—in person. Thirty miles over the Afghanistan border, Soviet forces are torturing your friend and mentor, Colonel Trautman. You're the only man alive with enough guts, brawn, and resourcefulness to single-handedly rescue the man who taught you how to fight. Every Soviet commando, tank, and attack chopper in the sector is on your tail. It's the ultimate contest for the ultimate fighter.

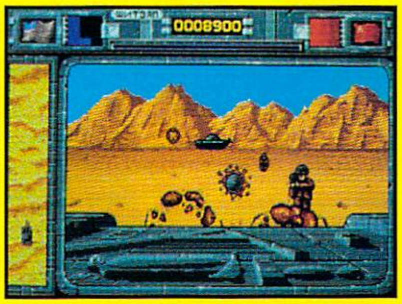
Amiga game screens.



It takes more than muscle to de-activate electronic gates, cross treacherous mine fields, and find the keys to Trautman's cell.



Ever fly one of these things? With the enemy breathing down your back, that Hind chopper's the best way out of this hell hole.



It's just you and your hijacked tank against anti-tank missiles and choppers. Sight in and rearrange that balance of power!

TAITO™

If you cannot find this product at your local retailer, Visa/Mastercard holders can order direct anywhere in the United States by calling toll free 1-800-663-8067.

Circle 112 on Reader Service card.

NOTEPAD

Compiled by Linda Barrett

Building Bridges to Classrooms

AS PRESIDENT BUSH and the 50 state governors geared up for the education summit in Charlottesville, VA, Commodore's new Director of Education, Howard Diamond, led a roundtable discussion with school superintendents and other education officials at the Radisson Hotel in Valley Forge, PA—site of the September World of Commodore show.

At issue was the so-called "training gap" left by computer companies that sell high-tech equipment to schools and then neglect to adequately train teachers to use it. "Education is an integral component of our overall corporate strategy," said Diamond, who previously served as a Higher Education Sales Development Specialist for Apple. "One of our goals is to help reduce the training gap in American schools by working to develop educational software and cirricula *with* educators, not just for them."

Commodore intends to restrict its education push to the Amiga, and to approach the market differently than its competitors have. Diamond said that the Amiga will be presented as a creative tool—one for developing critical thinking skills, not merely for programming and word processing.

Just months ago, there were only two people in the Amiga education and marketing support department; the plan is to increase the staff to 35 by January. One project this expanded staff will tackle is a support program for third-party education-software developers. Diamond gave no details, however.

When the discussion was over and the show floor opened up, developers and retailers displayed and sold their wares while show-goers oohed, ahhed, and wrote out checks. Some attendees gave their feet a rest at classes and seminars, the majority of which centered around the Amiga. While a few class topics complemented the education theme, others focused on animation, desktop publishing, and so on. The show was a tad small this year, but well-attended nonetheless.

September's World of Commodore may not have received as much press coverage as Bush's education summit, but for Amiga watchers, it was just as exciting. *—BGT*



World-Class Show

FROM THE PLUSH V.I.P. headquarters to its specially designed viewing theater, Commodore made the September '89 Personal Computer Show in London a world-class event for the Amiga. As an additional attraction, Commodore's International Distributors Conference paralleled the show.

Meeting, greeting, and comparing markets were the order of the day. Commodore reps from all over were in attendence: Mohamed Weston from Kuwait, Barry Thurston from the UK, Pierre Mizzi from Malta, Gregory Koler and Paul Maloney from Switzerland, Mikal Nielsen from Finland, Abdalla S. Al-Zayani from Saudi Arabia, Mike Onay from South Africa, and the ubiquitous Gail Wellington from the home office in West Chester, PA.

Commodore's exhibition area was huge. Large color monitors and Amiga 2500s displayed high-tech imagery everywhere you looked. Graphics weren't the only attraction. Commodore's slick arcade clicked, snapped, and popped constantly with the sounds of joysticks, while in the music exhibit for MIDI applications, Music-X made its European premiere with full SMPTE implementation. Audio Visual Research showed a 16-bit audio sampler that will push Amiga audio to CD quality.

While the show held no surprise products for Americans, the opportunity to discuss the Amiga's future with the multitude of worldwide representatives was more than worth the trip.

—Joel Tessler

ILLUSTRATED BY KEVIN HAWKES



Terri and Rick Foster of Los Gatos, CA (with junior gumshoe Danny and trusty bloodhound Jake) finished first under the wire to win the Grand Prize in the 1989 *AW* Mystery Sweeps.

Super Sleuths

IT BEGAN WITH a fictional murder in Saratoga, NY, and it ended with a real earthquake in the Bay Area of California.

Rick and Terri Foster, Grand Prize winners of the 1989 *AmigaWorld* Mystery Sweepstakes, didn't think traveling to the October 21 Awards ceremony at AmiExpo in Santa Clara would be any big deal. After all, the Fosters live only 20 miles down the road in Los Gatos. But when the Great Quake struck less than three days before the start of the show, it turned out to be too long a journey to make.

The media was reporting heavy damage in Los Gatos, and *AmigaWorld* had not been able to contact the Fosters before the show.

Although a message from them arrived at our hotel before the presentation, we weren't able to get in touch with them because phone service was out. Come Saturday morning, we found ourselves with one Grand Prize (the Amiga 2000HD) and one Grand Prize presenter (Andy Drexler, President of GO AMIGO! in nearby Redwood City, who had donated it)—but no winners.

Fortunately, when we finally got through to the Fosters after the show, we discovered they were relatively okay, if a little shaken. With power and water out in their house, they had fled to the safer retreat of Rick's mother's home.

Although it will be a while before they can power up even their toaster or coffeemaker, much less think about a computer, Rick and Terri do have plans for their new system. With both being involved in Santa Clara computer jobs (he with CMX, a videotape-editing equipment maker, and she with Versatech, a maker of electrostatic plotters), the Fosters are looking forward to using the A2000HD for numerous applications, including software development, video, and music. —***Dan Sullivan***

The Show Goes On

DESPITE AN EARTHQUAKE measuring 7.0 on the Richter Scale, last October's AmiExpo in Santa Clara went off as planned. Numerous aftershocks hit, though none were large enough to wreak havoc with the computers or worry the many native Californians in attendance.

Participation of vendors and the general public was down as expected, but at some points the show was surprisingly brisk. *AmigaWorld*, after some serious deliberations, decided to show. We're glad we did, because there were some impressive announcements.

We at *AmigaWorld* had our own announcement—we're forming the Amiga Developers Association, an organization for those whose livelihoods depend on the Amiga. The Association will hold its kickoff meeting March 15 at the Sheraton-Washington, DC. This group will present a unified voice to Commodore concerning marketing and technical issues, and will also work to convince the non-Amiga masses to explore this fine machine.

ProVector, a structured-drawing program from the new firm Taliesin, was demonstrated, as was Scott Anthony Studios' structured-drawing package. Scott Anthony's package uses Adobe's Display PostScript, a fancy display language made famous by Steve Jobs' NEXT machine.

Spirit Technology debued an unusual expansion system that allows boards originally designed for IBM PC XTs and ATs to run on A500s and A1000s. This system allows the Amiga to use IBM boards under AmigaDOS, unlike the Amiga 2000 with a Bridgeboard, which can only use IBM boards in conjunction with MS-DOS.

The C mavens from Lattice Inc. updated Lattice C V. 5.04 and will ship the update free to registered owners. The system includes 50 enhancements, and some known bugs have reportedly been squashed.

Never to be outdone, NewTek demonstrated DigiView 4.0, an enhanced version of the popular video digitizer. Among its numerous new features are "Dynamic-Res," a high-resolution 4096-color display mode. With this, the Amiga can have all 4096 colors in Hi-Res mode, something that had always been thought impossible. By using advanced interrupt programming to change the palette on every scan line, this new mode is capable of outstanding imagery, but it does require almost the full power of the Amiga to maintain it.

IMtronics is showing their 1.8 MB RAM board for the A500. What makes this extra special is that it installs in the A501 slot, creating extra address lines in order to maximize RAM capacity.

One of the most fun parts of the show was a "Killer Demo" contest sponsored by the BADGE User Group, and supported by product donations from numerous vendors. The point of the annual contest is to create demo software that shows off the Amiga and entertains at the same time. Bradley Schenck won first prize with "The Sentinel," an impressive Celtic-style piece, assisted by by an Amiga 2000 donated by Commodore. Roger Curran picked up second place with "The VAUX-Killer Demo," assisted by an A2620 donated by GO AMIGO. Sliding into third was "AmigaTrek" by Bill Koester, assisted by a flickerFixer donated by MicroWay.

—*Doug Barney*

REVIEWS

CALIGARI

PAGERENDER 3D

A glimpse into the future.

By Gene Brawn

CALIGARI AND PAGERENDER 3D each offer tantalizing previews of the future of 3-D modeling software.

The near legendary Caligari from Octree Software is now offered as a more affordable, slimmed-down, and debugged version of Octree's original $2000 product, Caligari Professional. It is available in both NTSC and PAL formats. The innovative three-dimensional interface remains in this release, but animation and scripting are not included. Although the software now saves 2-D images as IFF ILBM (Interleave Bitmap) files, three-dimensional objects are still stored in Octree's proprietary format.

I found the non-copy-protected software easy to install on a hard drive and free of fatal bugs. The program did guru, however, when I tried to multitask with my word processor and the Shell.

FAST AND SMOOTH

Perhaps Caligari's most outstanding feature is its speed: Complicated objects are rendered rapidly on the first display and redrawn almost instantly for subsequent draw commands.

Another impressive feature is Caligari's scrolling, twisting, turning, mouse-controlled interface, which responds at almost real-time speeds and is simple and intuitive to use, even for beginners. There are no pull-down menus; instead, functions and tools are accessed from stackable rows of buttons arrayed across the bottom of the hi-res screen. Although this system is unusual, it is extremely functional. Submenus appear above the current row and remain until you turn them off. Likewise, file requesters, color tools, and other items appear as windows in front of the button rows and remain open until you select or cancel them.

The work area is available as a true 3-D universe, and in the more conventional top side and front views. A display-only mode is also provided. It is the three-dimensional Perspective mode that sets Caligari apart from most other Amiga 3-D modelers. Here, by simply pointing and clicking, you can carry out almost any operation on the selected object. For example, if you want to rotate an object, click on its wireframe representation, select Rotate from the menu, then move the mouse in the direction you want it to rotate.

While 3-D modeling programs are typically not fast enough for use in commercial situations, Caligari is. Despite its lack of keyboard equivalents to menu selections, Caligari is almost as fast as that 2-D speedster, DeluxePaint III (Electronic Arts).

THE DESIGN DEPARTMENT

You accomplish most of your work in Caligari in just two environments, the Object Design and Scene Design modules. In the Object Design module you can create, edit, and view individual objects. More than 20 basic 3-D shapes (primitives) are available to get you started. From there you can use the editor's tools to pick up an object and move it anywhere in the coordinate system, rotate it on any axis, or scale it in any direction. You can also glue or unglue objects at any time. The usual method for controlling these functions is with the mouse, but more precise numerical control is available through the ETC menu selections.

Caligari's well-designed interface allowed me to run the program almost entirely without using the manual—except when it came to creating objects from scratch. In the manual, I discovered that the editing tools are in the Extruder module, rather than the other way around as I had expected. To create an object, you must first draw the shape freehand. If it is a simple, enclosed polygon, you can extrude it (as with a cookie cutter) or spin it on an arbitrary axis (as with a lathe).

If your shape is more complex, so is your task. Because you have the tools to design only two-dimensional shapes, you have to create all your object's flat surfaces separately. Then you must go through a tedious process of loading each one into the Perspective view, orienting it properly and, finally gluing the piece in place on the object. I could discover no way to grab and move individual points in an object; if you notice a mistake in a completed object, you must use the extruder/editor to completely redraw the part. This is unacceptable.

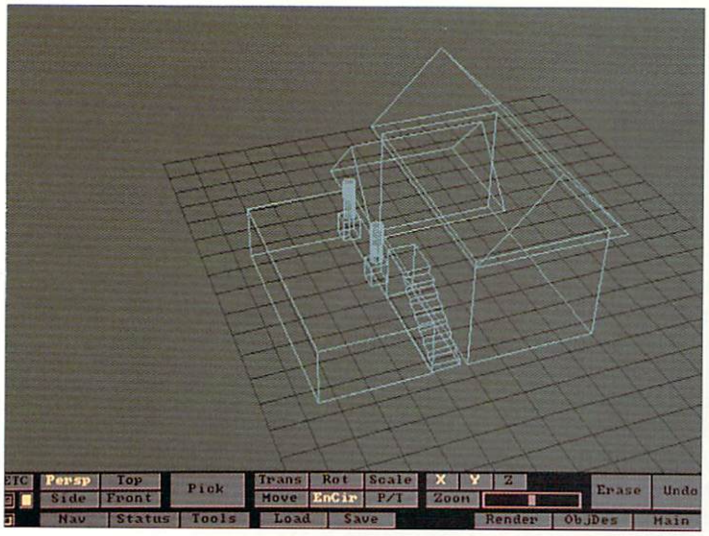
I expected to be able to set lights from within the perspective environment, but was disappointed to learn that settings are strictly numerical, and must be entered through gadgets in a special menu—an incredibly inconvenient process.

WHY NOT?

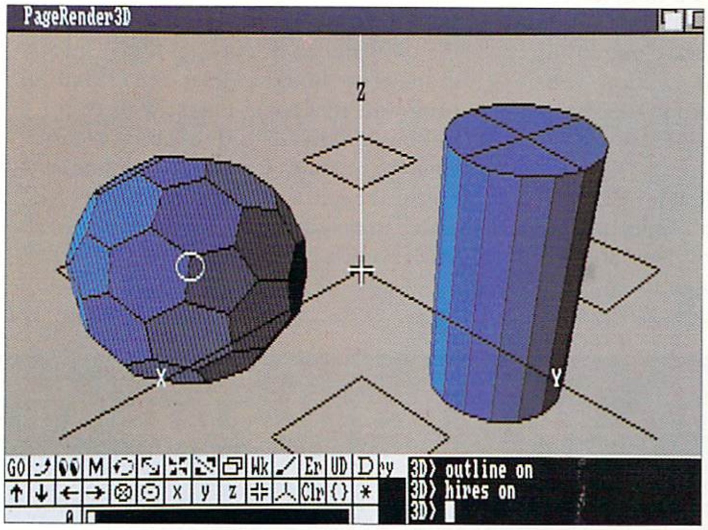
Because of its poor object-design environment, Caligari would serve best as a tool for viewing and modifying objects created in other programs. Unfortu-

nately, this is impossible because of the program's proprietary file format. This limitation goes both ways: You cannot export Caligari objects to a ray-tracing program to take advantage of superior rendering capabilities, either.

A great interface is only one element of a successful program, and, regrettably, Caligari is unable to provide the rest of the tools necessary to make it truly useful. I cannot recommend it for serious work, but I'll keep it around as an example of how I think 3-D interfaces should behave.



Enter Caligari's 3-D universe via its elegant interface.



With PageRender's controls, you can change the object's position, or your own.

More Than That

PageRender 3D from Mindware is much more comprehensive than Caligari in its range of tools and options. It is script based, and all program functions are accessed either via the mouse or from the CLI style window, which displays and records the text equivalent of each command. One incredibly useful tool lets you reload a saved script and play it step by step.

PageRender 3D's interface is not as slick as Caligari's, but it is similar. For example, the bottom quarter of the screen is devoted to the command buttons and the text window. Instead of employing the mouse to control the direction and degree of movement, however, PageRender 3D requires that you select a directional arrow from the control panel and then drag a bar (similar to scrolling in a text editor) to determine the amount or degree of movement. A full range of controls allows you to move your viewing position or to move the object itself.

My favorite feature is the animator. Unlike nearly every other 3-D modeler, this is not a separate mode, but part of PageRender's basic design. To animate an object, simply open an IFF ANIM file, and enter the commands to move, rotate, or size the object. The absence of a path command is a major drawback and should be remedied if this aspect of the program is to be fully exploited. Although PageRender 3D does not directly support the playback of ANIMS, the application can run programs through AmigaDOS. Sparta's ShowANIM player is included with the package for just this purpose.

Big and Broad

The introduction to the comprehensive manual declares that PageRender 3D is a broad and general program. It is. Its environment is flexible and the size of your 3-D universe is limited only by your machine's memory. Full control of the viewing position and a scrolling function allow you to look at any part of your creation. You can even print a larger-than-screen image in pieces and paste them together to create poster-size art.

Screen resolutions and sizes range from a lo-res ⅛ page view to a fully overscanned hi-res screen. The number of colors can range from two to 4096, although Extra_Halfbrite (64 colors) is not supported. A seven-level dithering control lets you produce up to 224 colors in lo-res mode with five bit planes.

PageRender 3D's palette control, on the other hand, is somewhat spartan, making it difficult to use the palette efficiently. Instead of a requester containing color choices, you get a single box and some RGB slider knobs. Another deficiency is the provision for but a single light source. Although the light's wattage and type (normal, strong, or weird) are variable, the allowance for only one ►

source severely limits the scenic variations possible.

Making It Easy

As with Caligari, PageRender 3D provides a library of basic objects and an object creator for custom designs. The object-creation module is rather conventional: You draw the design freehand and either extrude or spin it to give it depth. The object editor is another animal, however, unique in its power and simplicity. It lets you move single points to any spot in your universe either visually or by direct entry of the coordinates. You can subdivide faces (polygons) or entire objects into smaller groups of rectangles or triangles, and a number of transformation operations allow you to array, twist, stretch, or wave any group of connected objects. In addition, you can make the group assume the shape of a funnel, dome, arch, cone, crevice or cylinder.

Unfortunately, PageRender 3D comes up short in its ability to render the beautiful, complex scenes you have so painstakingly created. Although there is a ray-tracing mode, there is no provision for adding texture or reflectivity to your objects. Couple this with the single light source and you will find yourself limited to some pretty basic renditions. While this may be adequate for Computer Aided Design, I expected more.

I'm surprised that the programmers of this otherwise excellent software chose to limit file output to a proprietary format, especially considering the decision to limit its rendering capabilities. As with Caligari, it would be a boon to be able to export PageRender 3D's files to Sculpt-Animate 4D (Byte by Byte) or Turbo Silver (Impulse) for high-quality display.

Whither 3-D?

If manufacturers do not want to create the ultimate, all-in-one 3-D design program, they should at least offer a path to programs that complement their own. Although Syndesis is developing InterChange modules for both programs, I resent the extra cost I must assume in order to do something nearly every other Amiga application does routinely.

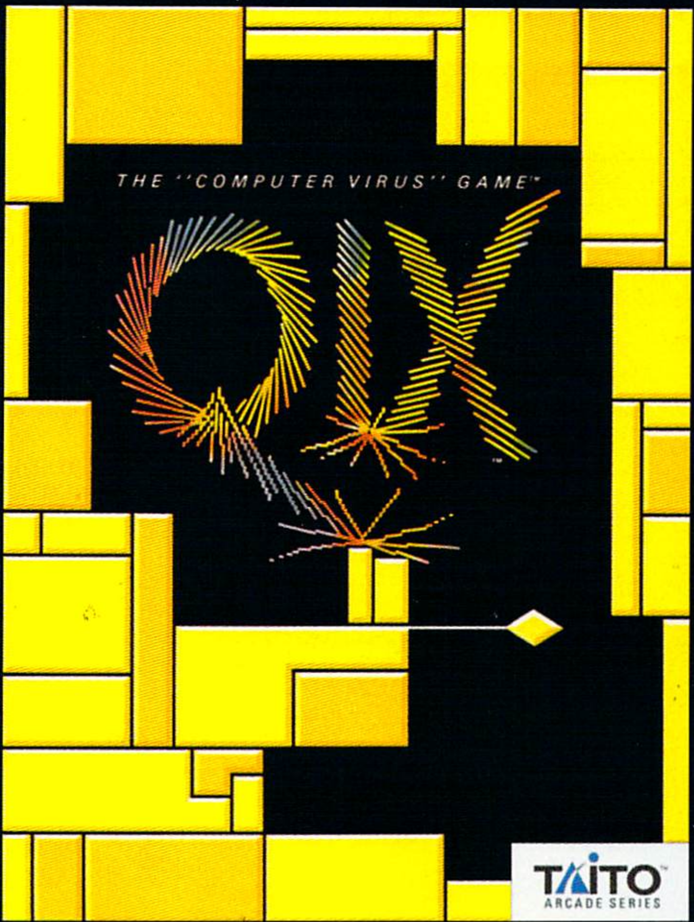
These two programs illustrate the current trend to real-world perspective displays. Caligari, although not suited for heavy-duty work, incorporates speed and an admirable interface design. (The package includes an instructional videotape as well.) PageRender 3D, on the other hand, shows a high level of innovation and attention to detail. Even the program's shortcomings seem well considered and, in fact, are mentioned in the documentation as candidates for future upgrades.

Caligari
Octree Software
311 W. 43rd St., Suite 904
New York, NY 10036
212/262-3116
$249.95
No special requirements.

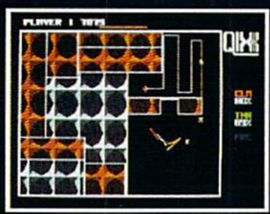
PageRender 3D
Mindware International Inc.
33 Alliance Blvd.
Barrie, Ontario
Canada L4M 5R3
$159.95
No special requirements. ►

VIRUS!

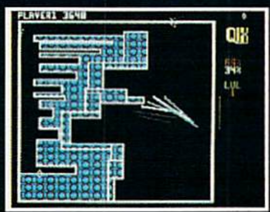
CAN YOU KICK THE QIX® ADDICTION?



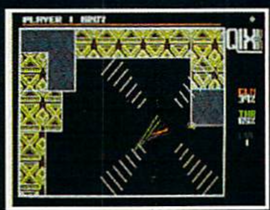
When QIX fever strikes, there is no cure! Like the mind-blowing arcade original, QIX is a computer virus that lives deep inside your computer, attacking without warning. Construct a trap in any one of the billions of configurations possible to immobilize QIX. But watch out for SPARX™ and SPRITZ™ and other deadly energy forms! In this electrical world of high-tech infections, mental dexterity and superior strategy are basic to survival. The practice mode turns beginners into addicts. No one is immune! Get your QIX before QIX gets you!



Actual Atari screen.



Actual C/64 screen.



Actual Amiga screen.

TAITO™

If you cannot find this product at your local retailer, Visa/Mastercard holders can order direct anywhere in the United States by calling toll free 1-800-663-8067.

Circle 56 on Reader Service card.

SCRIBBLE! PLATINUM EDITION

PROTEXT

Channel your creative ramblings.

By Irene C. Kobelski

WHILE THEY ARE functionally similar, Scribble! Platinum and Protext are quite different in appearance and operation. Both word processors are supplied on two non-copy-protected disks and run on any 512K single-drive Amiga (Protext supplies a 512K version but requires a meg to run the complete program).

An upgrade to the original Scribble!, the Platinum Edition is a menu-driven Amiga-specific program featuring two-, four-, or eight-color custom windows, pull-down menus, keyboard shortcuts, and plenty of graphic elements. Protext, on the other hand, is a command-driven MS-DOS port that has been revamped to include pull-down menus and keyboard shortcuts for common commands. The Amiga Protext is compatible with versions available for other computers.

IN COMMON

The two programs share a number of features: the standard cutting, pasting, styles, headers, and footers, plus tutorials and help screens. To save time, both let you generate page and screen templates for business letters, memos, reports, and other applications. Templates can include various screen and ink color combinations, which is handy if you plan to edit multiple documents simultaneously.

Spell checking a single word, window, or entire document is easy in either program, plus Scribble!'s Continuous Spell option lets you check each word as it is typed. Scribble! Platinum uses the 103,792-word Proximity/Merriam Webster Linguibase with scientific and technical supplements (quite an improvement over the the original Scribble!'s 40,000-word dictionary). The Protext dictionary is divided into three sections: Main (34,000 words), Supplemental (an additional 34,000+ words), and Quick (250 common words). Foreign-language supplements are also available for Protext. Both programs let you design your own dictionaries, a feature that is especially useful in Protext, which can scan up to five dictionaries.

Neither program gives you a true WYSIWYG (What You See Is What You Get) display, meaning that you do not see your document on screen exactly as it will print. For example, your display will always be single spaced even though you may have chosen double spacing. Both do provide a preview command, however, which allows you to view the completely formatted document before printing. Thus, you can see boldface, italics, and underlining on screen. Although superscript and subscript can also be used, they are not displayed as such: Scribble! uses inverse video to flag these styles, while in Protext the affected words are preceded by a parenthetic code.

Both Scribble! and Protext support Mail Merge, a function that relies on imbedded commands to generate per-

Continued on p. 114


INTELLIGENCE IS A GIFT
excellence!
For The Amiga
MSS
Intelligence is for all people, on any holiday... and so is *excellence!* When a company stays around 11 years, it must be doing something right... right? It must develop great products... right? Right! Intelligent buyers (also known as *educated consumers*) recognize value. Thanks to their support, Micro-Systems Software developed *excellence!* for the consumer who demands the best. Take advantage of the holiday season to purchase an intelligent, useful, rock solid word processor. Designed for the professional power of the Amiga, *excellence!* means business and features: *up to 250 fonts; a Spell-As-You-Type 90,000+ dictionary; Grammatical/Style Checker; Thesaurus; Index and Table of Contents Generator; Headers, Footers and Footnotes; the power of PostScript printing; True WYSIWYG; automatic Hyphenation; complex Math calculations; beautiful resizable Color Graphics; flexible Mail Merge; Columns; and an easy to use Macro language making complex actions and boilerplate text accessible from a single keystroke.* Someday, all top word processors may have all the features of *excellence!*; until then, you're ahead of the game!.... Intelligent, isn't it?
MSS
Micro-Systems Software
Committed to excellence since 1978
12798 Forest Hill Boulevard, Suite 202 • West Palm Beach, Florida 33414
407-790-0770 FAX: 407-790-1341
Amiga is a registered trademark of Commodore Business Machines • PostScript is a registered trademark of Adobe Systems, Inc.
excellence! is a trademark of Micro-Systems Software, Inc.
Circle 95 on Reader Service card.

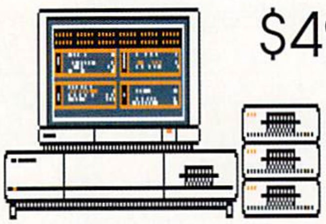
Centaur puts the

D.U.D.E.

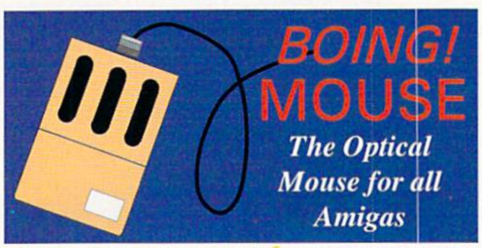
Take control of AmigaDOS with **D.U.D.E.** (**D**irectory **U**tility / **D**os **E**nhancer)!

D.U.D.E. - THE MOST POWERFUL DIRECTORY UTILITY TO DATE!

- Convenience: Up to twelve directory windows at once!
- Flexibility: Every aspect of the program can be custom configured.
- Functionality: More features than any other DOS utility program!

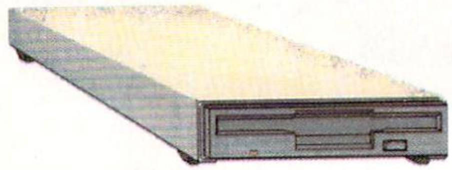


$49.95



- Double the resolution of the standard mouse for better precision
- Supports X-Windows, Amiga UNIX and Workbench 1.4
- Only Optical Mouse for the Amiga
- No moving parts to wear out
- Smooth mouse movement

CSI 3200 Silent Drive with...



CSI 3200 SilentDrive

- Doesn't make the annoying click when disk drive is empty
- Small compact design in sturdy metal case
- Compatible with all Amiga models
- Low Power consumption
- ON/OFF switch for saving memory
- Includes B.A.D. Disk Optimizer Software

$195.00

Also available, the CSI 2200 Internal drive for the Amiga 2000

$169.00

B.A.D.

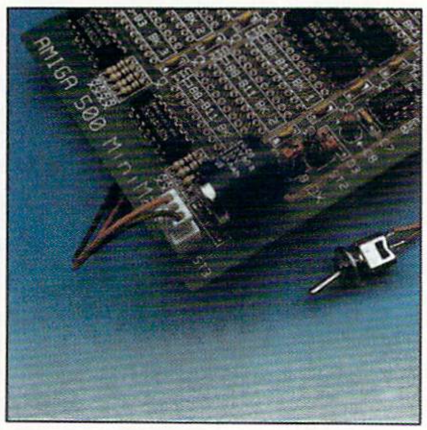
MAKE YOUR DISKS FLY WITH B.A.D.

- The Ultimate Disk Optimizer!
- Decrease Disk Access Time Up to 500%
- Works with Floppies AND Hard Drives
- Supports Multiple Partitions
- FAST CLI Directory Access
- Incredible Workbench Performance
- 100% AmigaDOS Compatible
- Works with the FAST FILING SYSTEM

B.A.D. analyzes, restructures, and processes ANY AmigaDOS disk such that permanent speed increases will be realized. This is NOT a RAM cache based system!

B.A.D. Separately $49.95

MiniMax



Get more out of your Amiga 500 with more memory. MiniMax internal RAM expansion allows you to expand your Amiga 500 up to a total of 2.3 megabytes internally!

...more memory for your *AMIGA*

- Available in 0K, 512K, 1 Megabyte or 1.8MB
- INTERNAL in your Amiga 500
- Replaces A501 memory expansion
- Keeps your expansion slot on side free
- Expansion RAM disable switch, for older software programs incompatible with extra memory
- RAM- test software included
- Realtime clock on board with battery backup
- Amiga automatically recognizes extra memory
- Low Cost

The complete professional solution from schematic to PCB!

PRO-NET

- Menu Driven.
- Complete set of powerful schematic capture commands.
- Variable logic template size that follows MIL-STD-860
- Provides automatic device and section number assignment with zone control.
- Automatic page reference generation and insertion through post processing.
- Weight assignments which can be hidden.
- Dot Matrix, Laser Printer, Plotter and Gerber Plotter support.

COMING SOON: PRO-NET PERSONAL

PRO-BOARD

- PCB library part accuracy to 0.001 inch.
- 0.025 PCB grid.
- Supports 1, 2, or 4 layer PCB with silk screen.
- Single line auto route, 12 mil trace, 13 mil spacing.
- Provides wide traces.
- Component placement done by positioning DIP, SIP, 2-PADS and library parts.
- Complete set of powerful PCB layout features accessible through IFK's.

COMING SOON: PRO-BOARD PERSONAL

fun in functional!

CENTAUR WORLD ATLAS



With World Atlas, a fun and educational utility comes to the Amiga. More than an atlas, this program gives you direct access to information and details on more than 170 countries, as well as the 50 United States. For students, educators, travelers, business executives, or just armchair explorers, World Atlas will provide an incredible wealth of knowledge and entertainment.

- Discover each country's history, language, population, customs and more!
- Choose by country and state list or world maps.
- Time sectors and earth facts too!

$59.95

PROFESSIONAL TECHNIQUES FOR DPAINT III

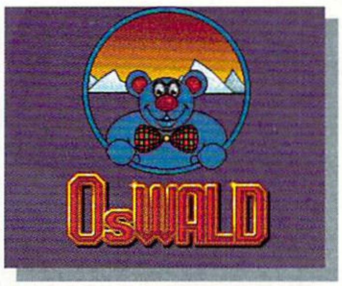
With this one hour video tape of tutorials, tips and techniques, the new user, as well as the seasoned professional, is easily shown how to best utilize Deluxe Paint III's tools to achieve spectacular effects with professional results. Amiga artist Jeff Bruette will guide you step by step through DPaint's features including:

- Cel Animation
- New Tools
- the "Move" requester
- Shortcuts
- Combining Effects
- 3-D Perspective and More

Also features Deluxe Paint creator Dan Silva.

VHS Only
$29.95

OSWALD



Oswald is a fast paced and entertaining action strategy game. Oswald's a cold and hungry blue bear jumping across the ice floes. You help him avoid the hazards of the freezing north sea on route to his goal.

- A wide range of digitized sounds
- Interesting adversaries
- Humorous animation
- Fun for the whole family

$39.95

LEONARDO



Leonardo is a thief who steals nearly everything he can get his hands on. Follow Leonardo's way through fifty different banks, museums and warehouses. Help Leonardo avoid the numerous alarm systems, guards and ghosts on his criminal trips.

$44.95

Mypaint™



Educational Paint Program with built-in Coloring Book
Satisfied customers are writing in about My Paint:
"My kids love this program because it's so easy to use. The digitized sounds are great!" - Santee, CA
"The graphics are wonderful - The children love it and so do I." - Jamaica, NY

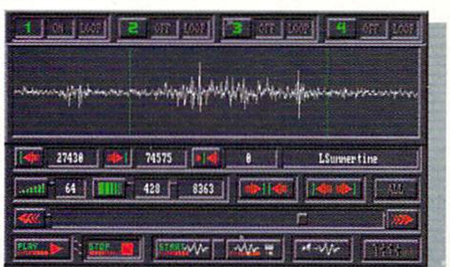
$49.95

Now available: Even more fun for educator approved MyPaint! New alphabet coloring disk with all new characters, objects, animals and sounds.

QUASARSOUND

The ultimate stereo sampling/sound editing system! Save real-world sounds in IFF format for use in any music program that supports IFF 8SVX sounds.

- High and Low Pass filter operations
- Can play and record up to 4 tracks in memory
- Easy to use user interface with visual editing
- Powerful editing features, including cut and paste operations



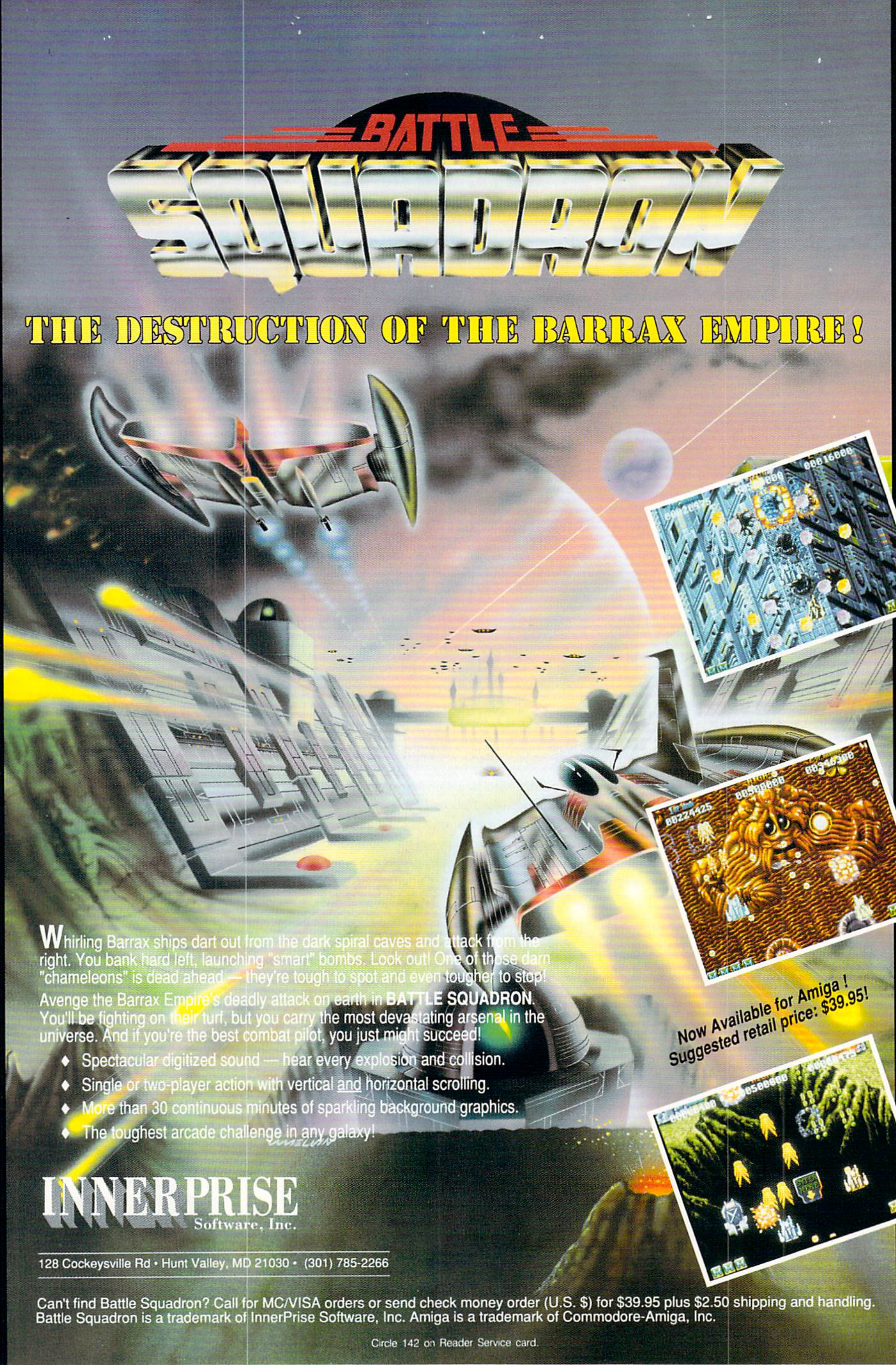
•POWERFUL RECORD TO DISK FUNCTION: With DISC-RECORDING, you can record sampled sounds longer than the capacity of your internal RAM on up to 4 disks at the same time to create auto-boot PlayDisks.

$59.95

CENTAUR SOFTWARE

Centaur Software, Inc.
P.O. Box 4400
Redondo Beach, CA 90278
(213) 542-2226

Dealers circle 239 on Reader Service card. Consumers circle 200 on Reader Service card.


BATTLE
SQUADRON
THE DESTRUCTION OF THE BARRAX EMPIRE!
Whirling Barrax ships dart out from the dark spiral caves and attack from the right. You bank hard left, launching "smart" bombs. Look out! One of those darn "chameleons" is dead ahead — they're tough to spot and even tougher to stop!
Avenge the Barrax Empire's deadly attack on earth in BATTLE SQUADRON. You'll be fighting on their turf, but you carry the most devastating arsenal in the universe. And if you're the best combat pilot, you just might succeed!
♦ Spectacular digitized sound — hear every explosion and collision.
♦ Single or two-player action with vertical and horizontal scrolling.
♦ More than 30 continuous minutes of sparkling background graphics.
♦ The toughest arcade challenge in any galaxy!
Now Available for Amiga !
Suggested retail price: $39.95!
INNERPRISE
Software, Inc.
128 Cockeysville Rd • Hunt Valley, MD 21030 • (301) 785-2266
Can't find Battle Squadron? Call for MC/VISA orders or send check money order (U.S. $) for $39.95 plus $2.50 shipping and handling.
Battle Squadron is a trademark of InnerPrise Software, Inc. Amiga is a trademark of Commodore-Amiga, Inc.
Circle 142 on Reader Service card.

Applications Software Buyer's Guide



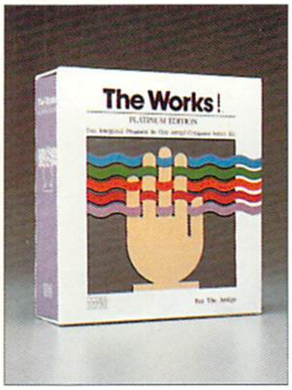
IF YOU HAD PASSED by our offices of late, you would have seen lights ablaze day and night and us at our posts bleary-eyed but determined. Surrounded by heaps of product announcements, we unearthed new companies, tracked elusive distributors with address changes, and investigated rumors of new and innovative programs. We harrangued developers and publishers by phone and post until we assembled the list before you.

For a "kinder, gentler buyer's guide," we extricated the entertainment group and gave it a name of its own—the Games Buyer's Guide (see the November '89 issue). The remaining applications programs totaled nearly one-thousand on its own.

Price and availability discrepancies might appear between this list and your dealer's. Where prices were unavailable, we placed a TBA (to be announced) in the price column. The "MEM" column was created to indicate programs requiring more than the standard 512K to run and was assembled from available information. Some programs may come with an extra memory *recommendation*, but may not *require* more. Questions about products should be directed to the corresponding company—a list of Manufacturers' Addresses is provided at the end of the Guide.

Compiled by Jan Jackson

PHOTOGRAPHED BY ED JUDICE



BUSINESS

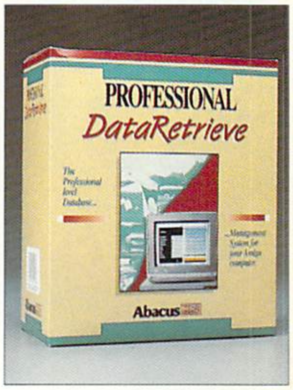
PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Accountant	KFS Software	**$299.50**	1MB	Commercial accounting including payroll.
Accounting Modules	Computerware	**$ 99.00**		Each sold separately—AR AP GL IC PR check.
AMT	The Other Guys	**$ 39.99**		Amortization and cost evaluation.
Arima Techniques	Lionheart Press	**$125.00**		Box-Jenkins analysis of time-series.
Basic Ledger	B.E.S.T. Inc.	**$ 79.95**		General ledger package for business use.
Business Budgeting	B.E.S.T. Inc.	**$ 79.95**		Budgeting program for business use.
Business Mngmnt. 2.0	B.E.S.T. Inc.	**$295.00**		Accounting program for business use.
Business Statistics	Lionheart Press	**$145.00**		Statistical tools for business.
Cluster Analysis	Lionheart Press	**$145.00**		All major cluster analysis algorithms.
Decision Analysis	Lionheart Press	**$145.00**		Decisions on incomplete or conflicting data.
Descriptive Stats.	Lionheart Press	**$145.00**		General statistical analysis and graphics.
Easy Loan	PAR Software	**$ 79.95**		Amortization tables for loans.
Econometrics	Lionheart Press	**$145.00**		Full-scale econometric techniques.
Experimental Stats.	Lionheart Press	**$145.00**		General purpose statistics.
Forecasting and Time	Lionheart Press	**$145.00**		Analysis of time-series.
Inventory	Lionheart Press	**$125.00**		Inventory management.
KEEP-Trak	The Other Guys	**$ 49.99**		General ledger.
Linear Programming	Lionheart Press	**$145.00**		Based upon SIMPLEX and Monte Carlo.
Marketing Stats.	Lionheart Press	**$145.00**		Collecting and analyzing marketing statistics.
Matrix Operations	Lionheart Press	**$125.00**		Includes transfer to and from spreadsheets.
Multivariate Analysis	Lionheart Press	**$145.00**		For advanced users.
Nimbus	Oxxi Inc.	**$159.50**		Cash accounting for small businesses.
Optimization	Lionheart Press	**$145.00**		Different optimization programs.
PAR Real I	PAR Software	**$149.95**		Real estate property analysis.
Project Master	TRS Labs	**$195.00**		Professional project management.
Project Planner	Lionheart Press	**$145.00**		PERT and Critical Path.
Quality Control	Lionheart Press	**$145.00**		Experiments; statistical basis of quality control.
Regression	Lionheart Press	**$125.00**		Based upon least squares techniques.
Sales and Market	Lionheart Press	**$145.00**		How to forecast.
Service Industry	Sybiz Software	**$395.00**		Integrated job estimating and costing.
Spectrum	Progressive	**$399.95**		Transaction acct. company ledger, journal.
Works! Platinum	Micro-Systems	**$295.95**		Integrates word processor, spreadsheet.

DATABASES

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Acquisition II	Taurus-Impex	**$299.95**		Relational database.
Acquisition Pioneer	Taurus-Impex	**$139.95**		Scaled-down Acquisition.
Bookkeeping System	Sax Man Systems	**$100.00**		Modular progams for use with Superbase.
Business I	Software Vision	**$ 59.00**		Templates and macros for Microfiche Filer.
Computer Black Book	Meggido	**$ 35.95**		Name address and phone database.
DataRetrieve	Abacus	**$ 79.95**		Accesses eight files simultaneously.
dBMan V5.2	VersaSoft	**$245.00**		Relational database; dBase compatible.
Info+	Eastern Telecom	**$ 49.99**		File manager.
Infominder	Byte by Byte	**$ 89.95**		Hierarchical data retrieval system.
K-Data	Kuma	**TBA**		Database.
Mail-O-Dex	KarmaSoft	**$ 49.95**		Address/record-keeping program.
Microfiche Filer	Software Visions	**$ 99.00**		File manager graphic interface.
MicroFiche Filer Plus	Software Visions	**$179.00**		Professional version of MicroFiche filer.
NAG Plus 3.0	Gramma Software	**$ 79.95**		Personal database; verbally reminds.
Norgen	Norris Software	**$ 99.95**		Genealogy database.
Omega File	The Other Guys	**$ 79.99**		File manager.
Organize!	Micro-Systems	**$ 79.95**		DBase compatible math functions.

PHOTOGRAPHED BY LARRY DUNN

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Pro DataRetrieve	Abacus	**$295.00**		Professional relational data retrieval.
Record Manager	HC Software	**$ 99.00**		Data management system for small business.
SoftWood File IIgs	SoftWood	**$ 99.95**		File manager includes graphics and sound.
Superbase Personal 2	Precision	**$149.95**		Relational database.
Superbase Personal	Precision	**$ 79.95**		Scaled down version of Pro.
Superbase Pro. 3	Precision	**$299.95**	1MB	Relational with integrated forms applications.
WWWW	Blue Ribbon	**$ 99.95**		Who! What! When! Where! scheduler.
Your Family Tree	Micromaster	**$ 49.95**	1MB	Genealogy database: supports up to 16 million.

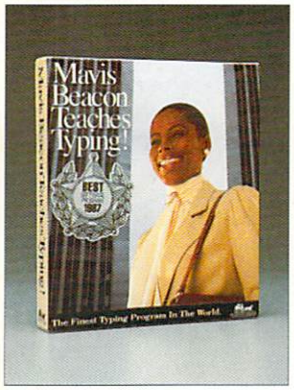


DESKTOP PUBLISHING

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Amiga Tex Driver	Radical Eye	**$100.00**	1MB	Printer drivers for Amiga Tex.
AmigaMETAFONT	Radical Eye	**$ 75.00**	1MB	Font generator for AmgiaTex.
AmigaTEX	Radical Eye	**$200.00**	1MB	Typesetting software.
City Desk 2.0	MicroSearch	**$199.95**	1MB	Page layout program.
ComicSetter	Gold Disk	**$ 99.95**	1MB	Layout tools for creating color comics.
Fonts Disk	Soft-Logik	**$ 39.95**		For use with PageStream.
PageStream	Soft-Logik	**$199.95**	1MB	Desktop-publishing program.
Pro ScanLab	ASDG	**$995.00**	2MB	24-bit color scanning utility.
Professional Page	Gold Disk	**$395.00**		High-end desktop publishing.
Publisher Plus	Northeast	**$ 99.95**		PostScript-compatible WYSIWYG.
Saxon Publisher	Saxon	**$445.00**	1MB	Includes four-color separations.
Structured Clip Art	Gold Disk	**$ 59.95**		Professionally drawn.
Symbols Font Set	C Ltd.	**$ 49.95**		Set of hi-res symbols.
Templates	Gold Disk	**$ 59.95**		For Professional Page with design guide.

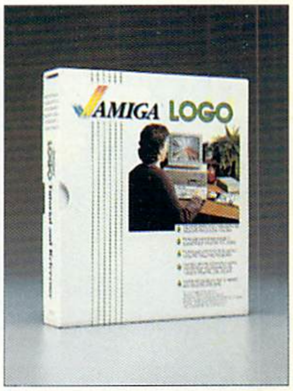
EDUCATIONAL

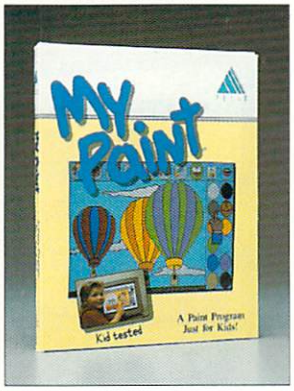
PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
8 Parts of Speech	Queue	**$ 44.95**		Nouns, pronouns, verbs, adjectives, etc.
Abraham and God	Micro Ed	**$ 29.95**		Describes Abraham's beliefs and actions.
ACLS Series	Mad Scientist	**$109.95**		Cardiac Arrest-ACLC Protocols- EKG.
Across the Plains	Micro Ed	**$ 59.95**		Depicts one of history's great migrations.
Adam and Eve	Micro Ed	**$ 29.95**		Describes the demise of man/God relationship.
Adjectives	Queue	**$ 39.95**		Adding New Ideas To Nouns And Pronouns.
Adventures of Sinbad	Unicorn	**$ 49.95**		Classic literature.
Adverbial Clauses	Queue	**$ 34.95**		Subordinate conjunctions, words, etc.
Aesop's Fable	Unicorn	**$ 49.95**		Stories with morals.
Aesop's Fables	Hilton Android	**$ 29.95**		Robot Reader: expand vocabulary.
Agreeable Verbs	Queue	**$ 39.95**		Covers agreement with person and number.
Agreement	Queue	**$ 34.95**		Of Pronoun With Antecedent.
Agreement	Queue	**$ 34.95**		Of Subject And Verb: person, number, etc.
Aids Information	Micro Ed	**$ 39.95**		High school to adults; provides basic info.
Algebra	True BASIC	**$ 49.95**		Fundamentals of Algebra.
All About America	Unicorn Software	**$ 59.95**		Social studies.
American English	Micro Ed	**TBA**		Language tutoring for Spanish speakers.
American History	Queue	**$ 59.95**		Master historical relationships.
Analogies I	Queue	**$ 65.00**		Improve aptitude test scores.
Analogies II	Queue	**$ 65.00**		Prepares for college aptitude test.
Animal Kingdom	Unicorn Software	**$ 49.95**		Six educational activities.
Antonyms	Micro Ed	**$ 29.95**		For elementary students; interactive teaching. ►



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Antonyms	Queue	**$ 34.95**		Identify and understand antonyms.
Arithmetic	True BASIC	**$ 49.95**		Learn arithmetic concepts.
Balancing Act	Micro Ed	**$ 29.95**		Review a checking statement and identify.
Bases	Queue	**$ 29.95**		Other Than 10: expanded notation, etc.
Basic Grammar	Micro Ed	**$ 29.95**		Identify nouns, verbs, adjectives, adverbs.
Beginning German	Micro Ed	**$ 69.95**		Foreign language instruction.
Beginning Reading	Micro Ed	**$ 89.95**		Beginning word "attack" skills.
Behavioral Sciences	Queue	**$ 34.95**		Interactive tutorial of psychology.
Birds 'N Bees	IntraCorp	**$ 14.95**		Facts-of-life instruction.
Blood Gases	Mad Scientist	**$ 49.95**		Blood gas analysis instruction.
Branded	Micro Ed	**$ 29.95**		Fractions: name relationships to the whole.
Calculus	True BASIC Inc.	**$ 49.95**		Practice calculus concepts.
Capitalization	Micro Ed	**$ 29.95**		Teaches how to correctly capitalize.
Cardiac Arrest	Mad Scientist	**$ 69.95**		Advanced cardiac life support program.
Case And Gender	Queue	**$ 44.95**		Of Nouns And Pronouns.
Case Of	Queue	**$ 34.95**		Nouns, Pronouns: nominitive, objective, etc.
Chicken Little	Hilton Android	**$ 29.95**		Robot Reader: expand vocabulary.
Choromap	Bassett	**$ 51.00**		Choropleth mapping package.
CLAS	Micro Ed	**$129.95**		Computerized Lesson Authoring System.
Clauses And	Queue	**$ 44.95**		Whole Sentences: helps to identify clauses.
Code Team	Mad Scientist	**$ 69.95**		ACLC Protocols-EKG Teaching-Cardiac Quiz.
Comp. Series	Queue	**$229.95**		Complete Practical Composition Series.
Comparing	Queue	**$ 44.95**		Gerund Participal And Infinitive Phrases.
Complements of Verbs	Queue	**$ 34.95**		Direct object transitive and intransitive.
Complete Adventure	Queue	**$130.00**		Complete Adventure Series.
Complete Lessons	Queue	**$149.95**		Reading and Reasoning series.
Complete Math	Queue	**$155.00**		Complete Special Topics In Math Series.
Complete Math	Queue	**$165.00**		Word problem series grades 3 through 8.
Complex Sentence	Queue	**$ 34.95**		Adjective Clauses: subordinate clauses, etc.
Compound Sentence	Queue	**$ 34.95**		Kinds of clauses, simple sentences, etc.
Comprehensive	Queue	**$ 64.95**		Grammar Review I series.
Confusing Verbs	Queue	**$ 39.95**		Covers six confusing verbs.
Crayons and Rainbows	The Trumor Co.	**$ 19.95**		Teaches colors through positive reinforcement.
Crosslinks	Poco-Loco	**$ 34.95**		Wordfind games: cryptograms.
CST Data Disk #1	AlohaFonts	**$ 24.95**		Three sets of data for ConSOUNDtration.
Decimal Dungeon	Unicorn	**$ 49.95**		Answer decimal problems correctly.
Descartes!	DTM Werburg	**$ 39.95**		Mathematical 2-D graphing system.
Designasaurus	Britannica	**$ 49.95**		Build, print, and learn about dinosaurs.
Developing Writing	Queue	**$135.00**		Tutorial and drill on writing effectivenes.
Digital Landscape	Digiscape	**$124.95**		View in 3-D the terrain of continental US.
Dinosaur Discovery K	First Byte	**$ 39.95**		Teaches pre-historic creatures.
Dinosaurs Are Forever	Merit	**$ 39.95**		Draw, color, and print dinosaurs.
Discovery	MicroIllusions	**$ 39.95**		Math or spelling space adventure.
Discovery Data Disks	MicroIllusions	**$ 19.95**		Science, math, geography, etc.
Discrete Math	True BASIC Inc.	**$ 49.95**		Math for computer scientists.
Dream is Alive	Tech Soft	**$ 19.99**		Space shuttle slide show.
Early Math	Micro Ed	**$ 49.95**		Teaches rudimentary skills.
Electricity	Queue	**$ 34.95**		Explains electricity, magnetism, etc.
Elementary Bio.	Queue	**$ 34.95**		Interactive tutorial on biology botany.
Elementary Bio. I	Queue	**$ 34.95**		Introduction to biology, botany, zoology.
Elementary Bio. II	Queue	**$ 34.95**		Detailed explanation of body's systems.
Elementary Chemistry	Queue	**$ 34.95**		Learn about elements, compounds, etc.
Elementary Physics	Queue	**$ 34.95**		Covers the physical states of matter, etc.
English as 2nd Lang.	Micro Ed	**$189.00**		Interactive set contains digitized pictures.
First Letters, Words	First Byte	**$ 39.95**		Letter identification.
First Shapes	First Byte	**$ 39.95**		Shape and form identification for preschooler.
Fraction Action	Unicorn Software	**$ 49.95**		Use knowledge of fractions to escape.
Fraction Concepts	Micro Ed	**$ 79.95**		Teaches primary concepts and skills to work.

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
French	Queue	$ 34.95		Levels I through XV sold separately.
Geographic Database	George Bailey	$ 15.00		Geography information base about Australia.
Gerunds	Queue	$ 34.95		Nature of the gerund.
Ghostly Grammar	Unicorn Software	$ 49.95		Instruction in the basic rules of grammar.
Good Samaritan	Micro Ed	$ 29.95		Describes the Golden Rule and its inception.
Great Lakes Fur	Micro Ed	$ 79.95		Early American history interaction.
How A Bill	Queue	$ 49.95		Becomes A Law. Enter Congress.
How To Spell	Queue	$ 39.95		Tutorial on principle of correct spelling.
How-To Addition	Micro Ed	$ 29.95		Help students master up to 14 levels.
How-To Subtraction	Micro Ed	$ 29.95		Master up to eight levels of subtraction.
Image Spinning	Micro Ed	$ 49.95		Provides practice for creative writing.
In the Beginning	Micro Ed	$ 29.95		Elementary: opening of the Old Testament.
In the Promised Land	Micro Ed	$ 29.95		Conquest, settlement of Promised Land.
Infinitives	Queue	$ 34.95		Nature and uses of infinitives.
IntelliType	Electronic Arts	$ 49.95		Typing tutor for adults.
Intro. To Punct.	Queue	$ 39.95		Covers proper use of punctuation.
Introducing Maps	Micro Ed	$ 59.95		Teaches basic knowledge of geography.
Jet Instrument Train	Precision Appr.	$ 89.95		Teaches complex instrument panel of jet.
Kid Talk	First Byte	$ 39.95		Talking notebook teaches writing skills.
Kinderama	Unicorn	$ 49.95		Five early learning games.
Land of the Unicorn	Unicorn	$ 49.95		Educational program.
Learning More	Queue	$ 59.95		About Words: covers vowels and consonants.
Learning the Alphabet	Micro Ed	$ 29.95		Teaches children letters and develops skills.
Learning to Write	Queue	$ 54.95		Basic components of a sentence.
Lesson In R & R I	Queue	$ 39.95		Reading and Reasoning: fallacies in meaning.
Lessons In R & R II	Queue	$ 39.95		Reading and Reasoning.
Lessons In R & R III	Queue	$ 39.95		Reading and Reasoning: word meaning.
Lessons in R & R IV	Queue	$ 59.95		Critical reading and reasoning.
Lewis and Clark	Micro Ed	$ 89.95		50 digitized photos and drawings.
Life Skills	Queue	$129.95		Reading I: grades 3 through 5.
Life Skills	Queue	$129.95		Reading II: grades 5 through 8.
Linkword Languages	Artworx	$ 29.95		Learn foreign languages: each sold separately.
Little Red Hen	Hilton Android	$ 24.95		Robot Readers: expand vocabulary.
Logic Lab	VS Graphics	$ 29.95		Teaches digital logic for circuit building.
Logic Master	Unicorn	$ 49.95		Solve analogy and number-series problems.
LOGO	Commodore	$ 99.95		Educational computer language.
Magical Myths	Unicorn	$ 49.95		Mythology.
Making Our Constitution	Micro Ed	$ 79.95		Digitized pictures track history.
Managing	Queue	$ 44.95		The Sentence: covers kinds of sentences.
MasterType	Mindscape	$ 14.95		Typing tutor.
Match-It	The Other Guys	$ 39.99		Pattern recognition.
Math Odyssey	The Other Guys	$ 49.95		Math function instructional program.
Math Talk	First Byte	$ 39.95		Talking math tutor coaches basic math skills.
Math Talk Fractions	First Byte	$ 39.95		Teaches fractions, decimals, and percents.
Math Wizard	Unicorn	$ 49.95		Four games that teach math skills.
Math-A-Magician	The Other Guys	$ 39.99		Learn math.
Mathematics	Queue	$ 34.95		Word Problems for grade 7.
Mathematics	Queue	$ 34.95		Word Problems for grade 3.
Mathematics	Queue	$ 34.95		Word Problems for grade 5.
Mathematics	Queue	$ 34.95		Word Problems for grade 8.
Mathematics	Queue	$ 34.95		Word Problems for grade 6.
Mathematics	Queue	$ 34.95		Word Problems for grade 4.
Mavis Beacon Teaches	Soft. Toolworks	$ 49.95		Typing tutor.
Maxi Taxi	Micro Ed	$ 29.95		Determine maximum earnings in simulation.
Medal Winner	Micro Ed	$ 29.95		Teaches values to be used in mathematics.
Miniature Math	Learners Image	$ 39.95		Miniature golf game teaches math.
Modifiers: Adjectives	Queue	$ 34.95		Adverbs, interrogative adverbs, etc.
MyPaint	Centaur	$ 49.95		Kids learn computer literacy by "coloring." ►





PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
MyPaint Data Disks	Centaur	$ 29.95		Extra disks for MyPaint, each sold separately.
Needing Reading	Queue	$129.00		Everyday reading high interest selections.
New Tech Coloring	Bo Software	$ 19.95		Color IFF pictures.
Nimble Numbers	Robin Hoare	$ 29.75		Preschool to age 8: digitized speech teaches.
Noah's Ark	Hilton Android	$ 29.95		Robot Readers: Expand vocabulary.
Noun Clauses	Queue	$ 34.95		Function of the noun clause.
Nouns	Queue	$ 39.95		Words Used As Names: recognizing nouns.
Nouns	Queue	$ 34.95		Different kinds of nouns, capitalization, etc.
On the Line	Micro Ed	$ 29.95		Fractions: identifying mixed numbers.
Package	Queue	$ 65.00		Remedial reading for grade 3.
Package B	Queue	$ 65.00		Remedial reading for grade 4.
Package BB	Queue	$ 65.00		Remedial reading for grade 2.
Package C	Queue	$ 65.00		Remedial reading for grade 5.
Package D	Queue	$ 65.00		Remedial reading for grade 6.
Package E	Queue	$ 65.00		Remedial reading for grade 7.
Package F	Queue	$ 65.00		Remedial reading for grade 8.
Pail Green	Micro Ed	$ 29.95		Fraction instruction through identifying.
Parking Lot	Micro Ed	$ 29.95		Teaches value concepts.
Participles	Queue	$ 34.95		Nature of verbals, forms of participle, etc.
Parting Shots	Micro Ed	$ 29.95		Practice in writing fractions.
Parts of Speech	Queue	$224.95		Complete series
Parts of Speech I	Queue	$ 34.95		Nouns, pronouns, verbs, and verb phrases.
Parts of Speech II	Queue	$ 34.95		Adjectives, adverbs, prepositions, etc.
Patterns Of Sentence	Queue	$ 44.95		Covers word order.
Pinball I.Q.	Micro Ed	$ 29.95		Teaches identification of single-digit quotient.
Planet Probe	Micro Ed	$ 29.95		Acquire information about our Solar System.
Powers and Roots	Queue	$ 29.95		Mathematics topics.
Practical Comp. I	Queue	$ 44.95		Teaches word choice.
Practical Comp II	Queue	$ 74.95		Teaches logical, clear sentences.
Practical Comp. III	Queue	$ 44.95		Teaches selection of approach.
Practical Comp. IV	Queue	$ 44.95		Making Sentences Work.
Practical Comp. V	Queue	$ 44.95		Using Words Correctly.
Practical Grammar I	Queue	$375.00		Complete series.
Practical Grammar II	Queue	$395.00		Complete series.
Practical Grammar III	Queue	$224.95		Complete series.
Practical Spelling	Queue	$ 29.95		Suggestions for improving spelling.
Practical Vocabulary	Queue	$ 54.95		High-school level drill.
Practicing Writing	Queue	$125.00		Provides interactive practice.
Pre-Calculus	True BASIC	$ 49.95		Review pre-calculus topics.
Prepositional Phrases	Queue	$ 34.95		Commonly used adjectival phrases.
Principal Parts	Queue	$ 34.95		Of Verbs: basic forms, regular and irregular.
Problems	Queue	$ 34.95		In the Use of Infinitives.
Pronoun Agreement	Queue	$ 39.95		Agreement of pronouns and antecedents.
Pronouns	Queue	$ 39.95		Substitues For Nouns.
Pronouns	Queue	$ 34.95		Simple, compound, personal, etc.
Punctuation	Micro Ed	$ 29.95		Teaches correct puntuation.
Punctuation Review	Queue	$ 34.95		All punctuation marks.
Puzzle Storybook	First Byte	$ 39.95		Children can design pictures to make puzzles.
R & T I	Queue	$ 54.95		Reading and Thinking: grades 2 and 3.
R & T II	Queue	$ 54.95		Reading and Thinking: grades 4 and 6.
R & T III	Queue	$ 54.95		Reading and Thinking: grades 6 and 8.
Ratios, Proportion	Queue	$ 29.95		Definition of ratio, how to express ratios.
Read & Rhyme	Unicorn Software	$ 49.95		Four language arts activities.
Read-a-Rama	Unicorn Software	$ 49.95		Reading game.
Reading Adventure	Queue	$ 39.95		Adventure 1: 3 Ponies; 4 Friends.
Reading Adventure	Queue	$ 59.95		Adventure 2: Case of the Lost Music Box.
Reading Adventure	Queue	$ 59.95		Adventure 3: Switching Siblings.
Reading Comp.	Queue	$ 65.00		Second Grade Reading Comprehension.

The Essence of Platinum!

Scribble! Platinum Edition

- ☐ 104,000+ word **Spellchecker**
- ☐ Scientific and Technical Supplements
- ☐ **Spell As You Type**
- ☐ Full User Dictionary maintenance
- ☐ 470,000+ word **Thesaurus**
- ☐ Multiple windows
- ☐ Color, Interlace & Overscan support
- ☐ Cut and Paste among documents
- ☐ **Mail Merge**
- ☐ Print **IFF Graphics**
- ☐ Clipboard Compatible
- ☐ Cartridge Font support
- ☐ 512K Required
- ☐ Not copy protected
- ☐ Free Technical Support
- ☐ User Friendly Manual

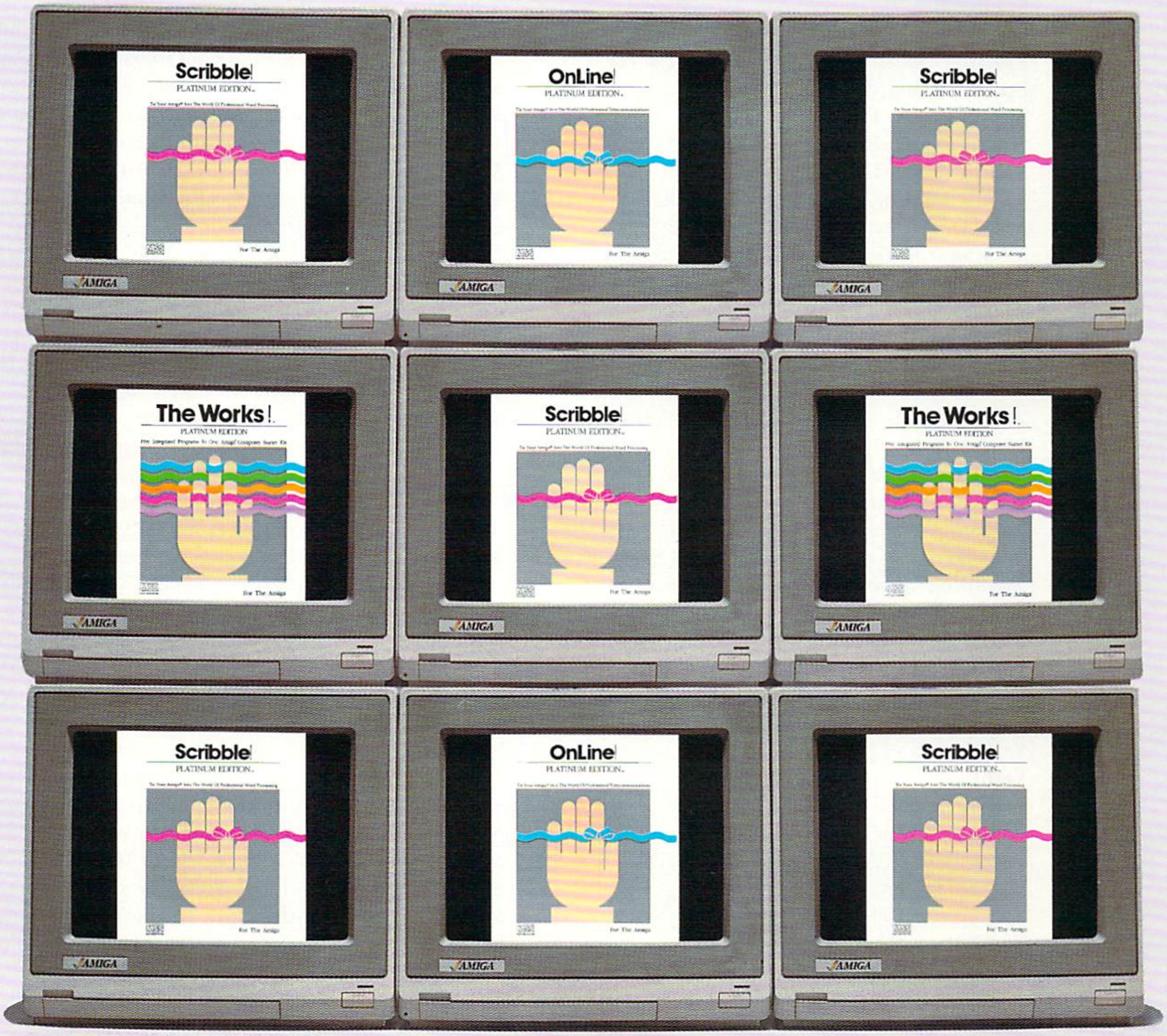
The Works! Platinum Edition

- ☐ **Includes Scribble! Platinum module**
- ☐ **Full featured spreadsheet module**
- ☐ Lotus 123 wks file compatible
- ☐ Macro-language
- ☐ 40+ built-in functions
- ☐ 68881 math co-processor support
- ☐ 8 graph types
- ☐ Sideways print utility
- ☐ **Flat file manager (database) module**
- ☐ Extensive math capability
- ☐ **Includes OnLine! Platinum module**
- ☐ Clipboard Compatible
- ☐ 512K Required
- ☐ Not copy protected
- ☐ Free Technical Support
- ☐ User Friendly Manual

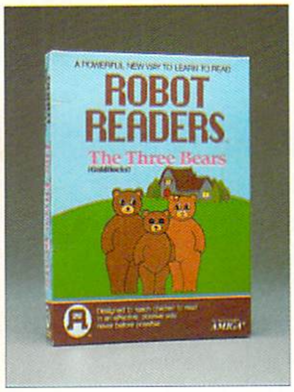
OnLine! Platinum Edition

- ☐ **ARexx support**
- ☐ New Sadie Protocol (simultaneous chat and 2-way file transfers)
- ☐ Color, Interlace & Overscan support
- ☐ VT-100, -52, -102, TTY, ANSI-BBS, Tektronics 4010 emulations
- ☐ X-, Y-, Z-, WX-Modem, CIS-B, Quick-B, Kermit protocols
- ☐ 300 - 57600 bits per second
- ☐ **Multiple Serial Ports**
- ☐ **Internal Modem support**
- ☐ **Full Script Language**
- ☐ **User defined Macro keys**

MSS
Micro-Systems Software
12798 Forest Hill Blvd., Suite 202
West Palm Beach, Florida 33414
407-790-0770 FAX: 407-790-1341
Committed to excellence since 1978



Circle 129 on Reader Service card.

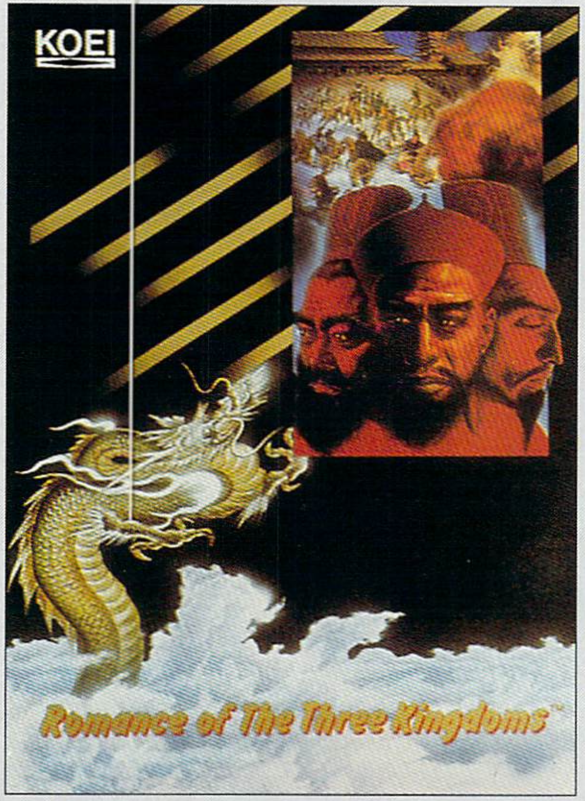


PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Reading Comp.	Queue	**$ 65.00**		Third Grade Reading Comprehension.
Reading Comp.	Queue	**$ 65.00**		Fourth Grade Reading Comprehension.
Reading Comp.	Queue	**$ 65.00**		Fifth Grade Reading Comprehension.
Reading Comp.	Queue	**$ 65.00**		Sixth Grade Reading Comprehension.
Reading Comp.	Queue	**$ 85.00**		Seventh Grade Reading Comprehension.
Reading Comp.	Queue	**$ 85.00**		Eighth Grade Reading Comprehension.
Relationship	Queue	**$ 39.95**		Words That Show A Relationship.
Remedial Series	Queue	**$425.00**		Remedial Reading Comprehension Series.
Rhyming Notebook	First Byte	**$ 39.95**		Rhyming dictionary for writers and poets.
Rounding/Estimating	Queue	**$ 29.95**		Mathematics topics covered.
Save the Whales	Micro Ed	**$ 39.95**		Learn about whales and their habitats.
Scare City Motel	Micro Ed	**$ 29.95**		Learn to equate supply with demand.
Scientific Notation	Queue	**$ 29.95**		Defininition of scientific notation, etc.
Sentence Patterns	Queue	**$ 34.95**		Different kinds of sentences, inverted order.
Sentences	Queue	**$ 34.95**		Subject and predicate, complete subject, etc.
Sleepy Hollow	Jumpdisk	**$ 4.00**		Text screen display with talking slides.
Smooth Talker	First Byte	**$ 39.95**		Speech synthesizer reads written text out loud.
Social Studies Vocab.	Micro Ed	**$ 29.95**		Elementary level social studies vocabulary.
Space Math	IntraCorp	**$ 49.95**		Math concepts game.
Space Photos II	Signs Etc.	**$ 19.95**		Pictorial history of the US space program.
Spanish	Queue	**$ 34.95**		Grammar I through XI sold separately.
Spell M-O-N-E-Y	Micro Ed	**$ 29.95**		Learn the definitions of basic economic terms.
Spellbound	Learners Image	**$ 39.95**		Spelling instruction.
Speller Bee	First Byte	**$ 39.95**		Three word games teach spelling.
Spelling	Micro Ed	**$ 29.95**		Each grade level sold separately.
Spelling Detective	Micro Ed	**$ 39.95**		Learn to spell 100 frequently misspelled words.
Sports Probs.	Queue	**$ 95.00**		Complete Package.
Sports Probs. I	Queue	**$ 39.95**		Math skills involve addition and subtraction.
Sports Probs. II	Queue	**$ 39.95**		Covers multiplication, division, addition.
Sports Probs. III	Queue	**$ 39.95**		High-interest word problems based on sports.
Sum-It Mountain	Micro Ed	**$ 29.95**		Learn to add multiple figures.
Tales of the Arabian	Unicorn Software	**$ 49.95**		Classic literature.
Talking Coloring Book	JMH Software ●	**$ 29.95**		Color recognition.
Tenses of Verbs	Queue	**$ 34.95**		Covers the six tenses of verbs.
The Ad Game	Micro Ed	**$ 29.95**		Learn to read a vertical bar graph.
The Bible On Disk	Micro Ed	**$ 99.00**		6-disk set contains the King James Version.
The First Christmas	Micro Ed	**$ 29.95**		Story of the nativity.
The Remarkable Puzzle	Signs Etc.	**$ 19.95**		90 jigsaw-type puzzles based on behavior.
Three Bears	Hilton Android	**$ 29.95**		Robot Reader: expand vocabulary.
Three Little Pigs	Hilton Android	**$ 29.95**		Robot Readers: expand vocabulary.
Trackers Quest	CSS Inc.	**TBA**		Educational program.
Transcontinental Rail	Micro Ed	**$ 39.95**		Digitized pictures of western rail expansion.
Trigonometry	True BASIC	**$ 49.95**		Learn trigonometric concepts.
True STAT	True BASIC	**$ 49.95**		Master statistical methods.
Tumbling Geometries	CSS Inc.	**TBA**		Math instruction.
Typing Tutor + Word	Academy	**$ 34.95**		Typing instruction and practice.
Ugly Duckling	Hilton Android	**$ 29.95**		Robot Readers: improve vocabulary.
Uncle D's ConSOUNDtr	AlohaFonts	**$ 29.95**		Pictures and sounds for ConSOUND.
Usage	Queue	**$ 39.95**		Tutorial on commonly misused words.
Usage Boners	Micro Ed	**$ 49.95**		Teaches to identify common usage mistakes.
Verb Voice	Queue	**$ 44.95**		Tense And Mood: transitive and intransitive.
Verbs	Queue	**$ 39.95**		Action And Linking Words.
Verbs: Voice	Queue	**$ 34.95**		And Mood: active and passive, etc.
Vocabulary	Queue	**$ 49.95**		For the World of Work I.
Vocabulary	Queue	**$ 49.95**		For the World of Work II.
Vocabulary I	Queue	**$ 49.95**		Adventure I: The Castle of Treasures.
Vocabulary II	Queue	**$ 49.95**		Adventure II: the Labyrinth grade 6.
Vocabulary III	Queue	**$ 49.95**		Adventure III: Marauders of the Lost Ark. ►



Computer Gaming World's 1989 Strategy Game of the Year

Romance Of The Three Kingdoms



A Quest of Conquest

Government has collapsed and China battles with itself as warlords struggle for supremacy.

Fight, barter, and trade your way to your ultimate goal: control of all China. But you can't do it alone. You'll have to recruit good subordinates and win their loyalty with bravery and gifts. Form alliances with other warlords, but know that they may not last long.

During peacetime build dams and bridges, clear fields, marry, train your troops, and give and receive loans of food and money.

On the battlefield, fight on realistic terrain. Try to crush the enemy, but know he will be strong. Your shot at victory comes by carefully preparing your men and then giving the battle everything you have.

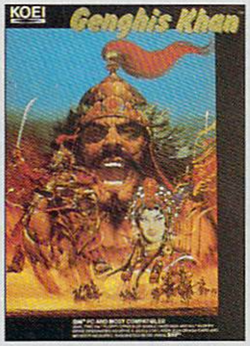






Features Includes: 255 characters, each with a distinct personality; military, economic and diplomatic simulation; five different scenarios; ten levels of difficulty per scenario; play by one to eight; demo mode; complete intruction manual and historical notes; Poster Included.

(Screen Shots Are IBM Screens. Amiga Version To Use Amiga Graphics)

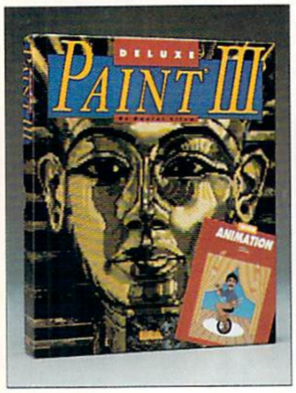


COMING SOON!

Become History's Most Feared Generalissimo, Or One of His Rivals

KOEI...We Supply The Past, You Make The History

One Bay Plaza, Suite 540, 1350 Bayshore Highway, Burlingame, CA 94010, Tel. 415-348-0500 Circle 105 on Reader Service card.



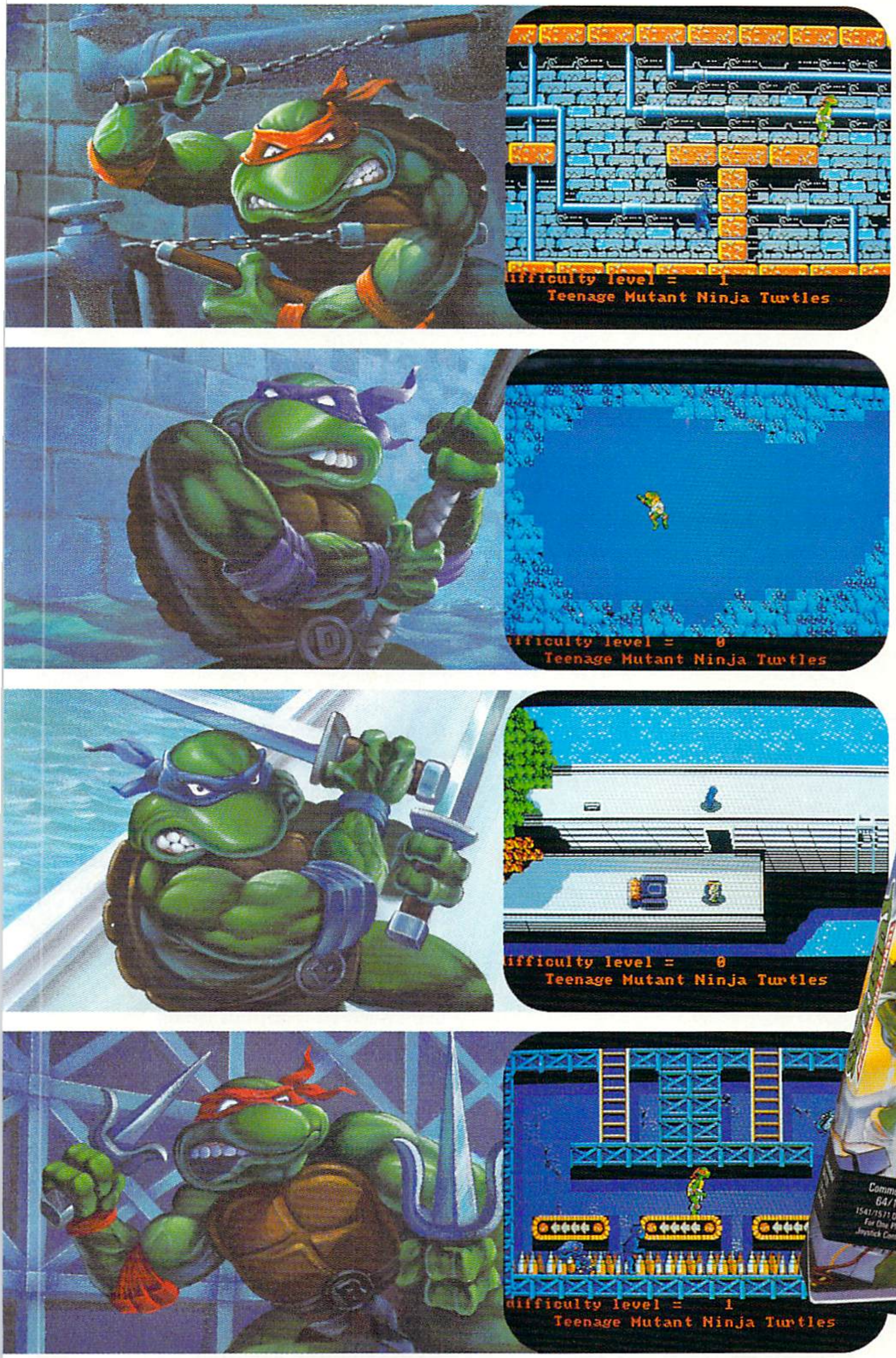
PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Vocabulary Series I	Micro Ed	$ 49.95		High-level vocabulary mastery learning.
Vocabulary Series II	Micro Ed	$ 49.95		Work with words that have similar meanings.
Word Demons	Micro Ed	$ 29.95		Deals with commonly confused sets of words.
Word Master Vocabulary	Unicorn Software	$ 49.95		Learn new words.
Words That Sound Alike	Micro Ed	$ 29.95		Elementary: learn to identify and spell.
Working with Sentence	Queue	$184.95		Complete parts of speech series.
World Atlas	Centaur Software	$ 59.95		Geographical information.
World Odyssey	The Other Guys	$ 49.95		World geography instructional program.
Writing Skills	Queue	$285.00		Complete series.

GRAPHICS/VIDEO

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
3-D Options	Rainbows Edge	$ 89.95		Auto-tracing bitmapped pictures converts.
3-Demon	Mimetics	$ 99.95	1MB	3-D object editor for Sculpt Animate, etc.
ACAD Translator	Access Tech.	$179.95		Converts DXF files to Sculpt-Animate format.
Advanced Techniques	RGB Video	$ 34.95		Deluxe Help's textures and backgrounds.
AlohaFonts V. 2	AlohaFonts	$ 19.95		43 fonts from 16 to 84 points.
AlohaFonts V. 3	AlohaFonts	$ 19.95		41 fonts from 16 to 99 points.
AlohaFonts V. I	AlohaFonts	$ 19.95		Fonts and dingbats.
Analytic Art	Crystal Rose	$ 59.95		Fractal art program.
ANIMagic	Sparta	$279.00	1MB	Animation and editing; special effects.
Animate 3D	Byte by Byte	$150.00		Animates ray-traced images.
Animation Station	Progressive	TBA	1MB	Opcode-5 standard ANIM editor.
Animation:Apprentice	Hash Enterprise	$295.00	1MB	3-D shading, character animation.
Animation:Editor	Hash Enterprise	$ 59.95		Format & Resolution Conversion.
Animation:Effects II	Hash Enterprise	$ 69.95		ADO-like video effects.
Animation:Flipper	Hash Enterprise	$ 59.95		Plays IFF pictures in ANIM standard.
Animation:Multiplane	Hash Enterprise	$ 89.95	1MB	Digital compositor.
Animation:Rotoscope	Hash Enterprise	$ 79.95	1MB	Traveling matte painting.
Animation:SoundTrack	Hash Enterprise	$119.95	1MB	Sound/animation synchronizing & editing.
Animation:Stand	Hash Enterprise	$ 69.95	1MB	Software version of a camera stand.
Animation:Titler	Hash Enterprise	$ 79.95		Professional video titler.
Animator	Aegis	$ 99.95		Polymorphic animation includes Images.
Apprentice Libraries	Hash Enterprise	$ 19.95	1MB	Objects for Animator.
Architectural Library	Madrigal	$ 89.95		Elevation parts and building modules in Aegis.
Architectural Library	Madrigal	$ 89.95		Interior design furniture parts in Aegis CAD.
Architectural Library	Madrigal	$ 89.95		Elevation parts and building modules.
Architectural Library	Madrigal	$ 59.95		Interior design furniture parts in IFF paint.
Art Companion I	MicroSearch	$ 29.95		People & Technology data disk.
Art Companion II	MicroSearch	$ 29.95		Banners, Border & More data disk.
Art Companion III	MicroSearch	$ 29.95		Brushes & Screens data disk.
Art Companion IV	MicroSearch	$ 29.95		Holidays & Sports data disk.
Art Gallery I and II	Unison World	$ 29.95		Clip art of divers subjects.
Art Gallery—Fantasy	Unison World	$ 29.95		140 sword and sorcery graphics.
Art Parts	Electronic Arts	$ 29.95		Volume I: 175+ color clip art.
Arts Parts #2	Electronic Arts	$ 29.95		DeluxePaint data disk.
Award Maker Plus	Baudville	$ 49.95		Creates awards and certificates.
BoardWalk Font Set	C Ltd.	$ 49.95		BoardWalk font in various sizes and styles.
Borders	The Dragon Group	$ 34.95		Over 50 borders: Amiga Coloring Book.
Borders Font Set	C Ltd.	$ 49.95		Font set with borders and outlines.
Broadcast Titler	InnoVision	$299.95	1MB	Antialiased character generator.
Brummbar's Backgrounds	Soft. Sensations	TBA		Series of IFF-painted backgrounds.
Bumper Sticker Maker	Intracorp	$ 59.95		Design and print your own bumper stickers.
Business Card Maker	Intracorp	$ 59.95		Design and print custom cards.

►

FOUR COMPUTER HACKERS ARE ABOUT TO RAID YOUR DISK DRIVE.



No computer will go unscathed, as Ultra's version of Teenage Mutant Ninja Turtles® storms into your disk drive to duke it out with Shredder™—a maniac more menacing than an army of mind-altered Bruce Lees.

But if they're to survive, you must command the role of each turtle, rumbling through a maze of Mouser™ infested sewers, criminally polluted rivers and alleys patrolled by the fanatical Foot Clan.™

Along the way, search for bonus weapons like the Triple Shuriken. You'll have to also think fast, switching turtle identities in order to match their karate skills with those of the enemy.

So grab your joystick and nunchukus, then control every leap, chop, slice and dice, until you splatter Shredder senseless or get yourself hacked into turtle soup.

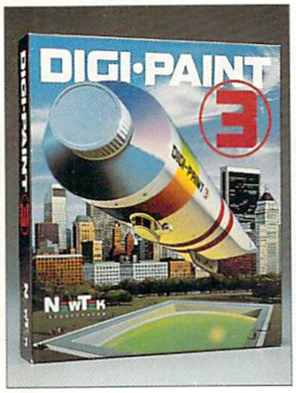
Now featuring the ULTRA® "GAME SAVE" command.



ULTRA® GAMES

Teenage Mutant Ninja Turtles is available for IBM, Commodore and Amiga.

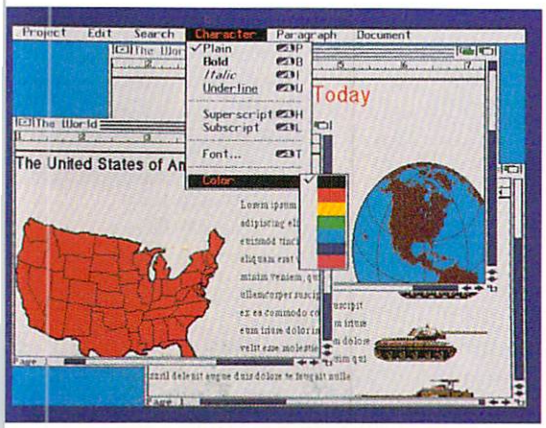
Circle 25 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Business Font Set	C Ltd.	**$ 79.95**		Two fonts in various styles.
Butcher	Eagle Tree	**$ 37.00**		HAM to hi- to lo-res conversions.
Button and Badge Maker	Intracorp	**$ 59.95**		Design and print buttons & badges.
CAD Parts	East-West Software	**$ 24.95**		For use with IntroCAD or Aegis Draw 2000.
Calligari	Octree Software	**TBA**		Consumer version; video and design.
Calligari Professional	Octree Software	**$1995.00**		Conceptual 3-D design and animation.
CalligraFonts/Asha's	InterActive Softworks	**$ 89.95**	1MB	16-color and monocolor fonts.
CalligraFonts/Andre	InterActive Softworks	**$ 46.25**	1MB	Newsletter fonts sized for dot-matrix printers.
CalligraFonts/Lion's	InterActive Softworks	**$ 89.95**	1MB	Four disks of 150 fonts for presentations.
CalligraFonts/Novelty	InterActive Softworks	**$ 69.95**	1MB	Ice, Pencil, Skyline, Swiss Cheese, Jade, Stars.
Calligrapher	InterActive Softworks	**$129.95**	1MB	Professional font editor with 16 color fonts.
Cel Animator	MicroIllusions	**$149.95**	1MB	Photon Video: professional cel animation.
Celtic Open Font Set	C Ltd.	**$ 49.95**		Celtic Open font in various styles and sizes.
Classic Script Font	C Ltd.	**$ 49.95**		Classic Script font in various styles and sizes.
Clip Art Disks 1–8	Magnetic Images	**$ 39.95**		100+ hi-res images per disk, divers subjects.
Clip Art Vol. I	Software Integ.	**$ 29.95**		Oriental desktop art.
Clip Art Vol. II	Software Integ.	**$ 29.95**		Marshal art disk.
Clip Art Vol. III	Software Integ.	**$ 29.95**		Folk art data disk.
Clip Art Vol. IV	Software Integ.	**$ 29.95**		Chinese fonts.
Comic Art Series	Gold Disk	**$ 34.95**		Clip art for Comic Setter, sold separately.
Commercial Font Set	C Ltd.	**$ 99.95**		TRP and HVP fonts in upright italic.
DataPlot	Bytes and Bullets	**$ 15.00**		Plots curves of data from other programs.
Deluxe Maps Vol. I	Computer Arts	**$ 25.00**		US regional and state maps in IFF format.
DeluxePaint II	Electronic Arts	**$ 99.95**		Paint program.
DeluxePaint III	Electronic Arts	**$149.00**		Paint with animation: multi-cel and 3-D.
Deluxe PhotoLab	Electronic Arts	**$149.95**		Enhance digitized images, move elements.
DeluxePrint	Electronic Arts	**$ 99.95**		Make cards, banners.
DeluxeProductions	Electronic Arts	**$199.95**		Hi-res video creation and presentation.
DeluxeVideo	Electronic Arts	**$129.95**		Desktop video package with 27 special effects.
DeluxeVideo 1.2	Electronic Arts	**$129.95**		Video animation titling and music.
Design 3D	Gold Disk	**$ 99.95**		Wire frame modeling and rendering.
Design Disk	Antic	**$ 34.95**		Clip art.
Desktop Artist	SunRize Ind.	**$ 29.95**		Black-and-white clip art.
Diamond	Impulse	**$ 79.95**		HAM paint program and image processor.
Digi-Paint 3	New Tek	**$ 99.95**		HAM paint package.
DigiWorks 3D	Access Tech.	**$129.95**		Converts digitized images for 3-D rendering.
Director	Right Answers Group	**$ 69.95**		Animation sequencing.
Director Toolkit	Right Answers Group	**$ 39.95**		Enhancement for The Director.
DMA Stereo Pair Libr	Seven Seas	**$ 24.95**		Programming assistance and examples.
Doug's Math Aquarium	Seven Seas	**$ 89.95**		Graphics representation of math formulas.
DPaint Art & Utility	Electronic Arts	**$ 29.95**		Includes slide show.
Draw	Aegis	**$ 99.95**		Entry-level design drawing.
Draw 2000	Aegis	**$279.95**		Supports 68020 coprocessor.
Draw Plus	Aegis	**$259.95**		2-D CAD program.
Drawscreen	LaserUp!	**$ 99.95**		Duplicates PostScript drawing.
eclipse	AlohaFonts	**$ 99.00**		Structured clip art in ProDraw format.
Education Award Libr	Baudville	**$ 29.95**		Hundreds of award styles for Award Maker.
Elan Performer	Elan Design	**$ 59.00**		Access and display graphics.
Express Paint 3.0	PAR Software	**$139.95**		Paint program that imports text.
Eye Play 2	Silver Software	**$ 19.95**		Build computer art from 36 graphic routines.
Fancy 3D Fonts	Access Tech.	**$ 79.95**		Fonts for Turbo Silver and Sculpt Animate.
Fancy 3D Fonts	Access Tech.	**$ 79.95**		Turbo Silver Version: proportionally sized.
FinePrint	Designlab	**$ 49.95**		Produces hi-res 16-gray-scale dumps.
FloorPlan Construction	Gramma Software	**$ 49.95**		Interior design aid for home & office.
Focus Video	A-Squared	**$159.00**		Image acquisition and processing software.
Font Enhancer	InnoVision	**$ 99.95**	1MB	For Broadcast Titler, antialiases fonts.
Fonts & Borders	Unison World	**$ 34.95**		20 type fonts of varied sized, 20 borders.
Forms in Flight	Micro Magic	**$ 79.00**		3D drawing and animation.

ProWrite 2.5, The Best Amiga Word Processor. Guaranteed.

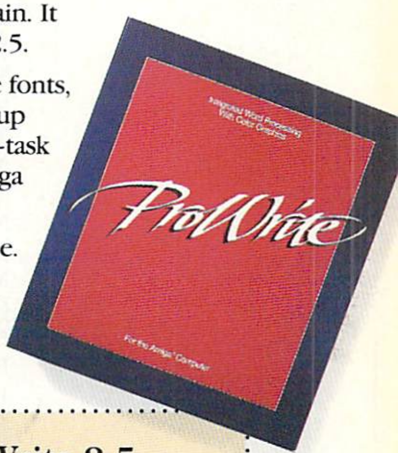
Feature	ProWrite	excellence	Pen Pal	Kind Words	Scribble
True Multiple Fonts	✓	✓	✓		
Color Pictures	✓	✓	✓	✓	
Wrap Text Around Pictures	✓		✓		
WYSIWYG Display	✓	✓	sometimes	✓	
Spelling Checker	✓	✓	✓	✓	✓
Mail Merge	✓	✓	✓	✓	✓
Typing Speed	fast	slow	medium	slow	medium
Spell Check as You Type	✓	✓			
Simultaneous Text and Graphics Printing	✓		✓		
Automatically Adjust to Printer's Capabilities	✓				
PostScript Support	optional	✓			
Paragraph Sorting	✓				
User Definable Defaults	✓				
Can Multi-Task with 1 Meg of Memory	✓			✓	✓
Suggested Retail Price	124.95	299.95	149.95	99.95	149.95
Guaranteed Bug Free*	✓				



ProWrite is the most reliable full-featured Amiga word processor—and it's the only one that's guaranteed. Look at the chart again. It highlights just a few of the features you get with ProWrite 2.5.

Unlike other word processors, ProWrite *can* use multiple fonts, *can* place graphics next to multiple lines of text, *can* keep up with your typing, *can* check spelling as you type, *can* multi-task with just one meg of memory, and *does* have that solid Amiga feel. And we support our product better than anyone.

See how easy and powerful Amiga word processing can be. Trade in your current word processor and for only $75 we'll send you ProWrite 2.5. Don't miss this exciting opportunity.



*Call or write to us for details on ProWrite's bug free guarantee.

NEW HORIZONS

First In Personal Productivity And Creativity.

206 Wild Basin Road, Suite 109 / Austin, Texas 78746
(512) 328-6650 / FAX (512) 328-1925

Circle 38 on Reader Service card.

❑ **Yes, send me ProWrite 2.5 at a $50 savings!**

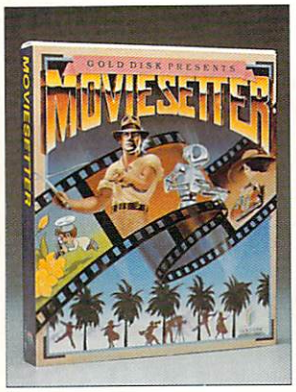
Here's my word processor program disk and a check or money order for $75 (Texas residents please add $5.81 sales tax).

NAME ______________________

ADDRESS ______________________

CITY, STATE, ZIP ______________________

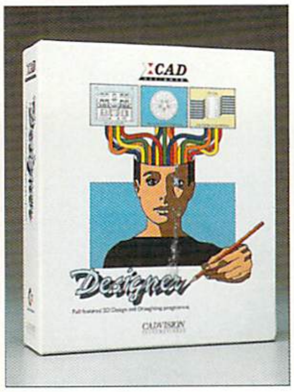
Offer valid in U.S.A. and Canada only.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Forms in Flight Conv	Syndesis	$ 19.95		Share IFF files w other Interchange modules.
FractalPro	MegageM	$ 89.95		AutoMag3.0 and HAMandel3.0 two-disk set.
Framegrabber Software	Progressive	TBA	1MB	New features for the popular Frame Grabber.
Grabbit	Discovery Software	$ 29.95		Screen print and save.
Graphics Studio	Accolade	$ 49.95		Paint program.
Graphics Tranformer	IMSI	$ 89.00		Converts graphics file formats.
HAMandel 3.0	MegageM	$ 49.95		Fractal art program w or w/out AutoMAG.
Headline Font Set	C Ltd.	$ 99.95		Headline-sized HVP, Celtic, Open, Board, etc.
Headlines 2	Kara Computer	$ 69.95	1MB	4 hi-res dimensional color fonts in 2–3 sizes.
Help For DeluxePaint	RGB Video	$ 49.95		Deluxe Help's interactive tutorial.
HomeBuildersCAD	EaseWare	$199.00	1MB	3-D design and estimating system.
HomeBuilders Choice	EaseWare	$ 81.00	1MB	Add-on for HomeBuilders CAD.
HomeBuilders Library	EaseWare	$ 45.00		Add-on parts: library, kitchen cabinets.
HomeBuilders Print	EaseWare	$117.00	1MB	HomeBuildersCAD add-on plotter interface.
Hometown, U.S.A	Publishing Int.	$ 39.95		Design, build 15 structures for 3-D models.
HUGEprint	Hugh's Software	$ 48.00		Mural printer.
Icon Paint	Hitension Comp.	$ 30.00		16-color workbench for creating color icons.
Images	Aegis	$ 39.95		Paint program.
Impact	Aegis	$ 39.95		Business presentation graphics.
Interactor	Vivid Produce	$ 79.00		Interactive graphics presentation system.
InterChange	Syndesis	$ 49.95		Shares objects for 3-D modeling.
InterFont	Syndesis	$119.95		Create fonts for use with 3-D animation.
InterFont Add-on Mod	Syndesis	$ 79.95		Font-creation add-on for InterChange.
IntroCAD	Progressive	$ 79.95		Drawing program.
Invision Plus	Elan Design	$299.00	1MB	Real-time video effects and animation.
Kara Fonts Headlines	Kara Computer	$ 79.95	1MB	Ten hi-res dimensional fonts in two sizes each.
Lights! Camera! Action!	Sparta	$ 79.95	1MB	Slide-show and special effects generator.
LogicWorks	Capilano	$149.95		Electrical schematic capture.
Lons Fonts	Micro Momentum	$ 29.95		Interfont compatible font sets.
Masterpiece 3-D Font	ARock	TBA		Set of 3-D fonts: InterFont format.
Materpiece Fonts	ARock	$199.00		Professional 20-disk font set.
Media Line Animation	Free Spirit	$ 39.95		Selection of animation backgrounds.
Media Line Clip Art	Free Spirit	$ 34.95		Over 200 clip-art pieces for use in desktop.
Media Line Font Disk	Free Spirit	$ 34.95		Collection of structured fonts.
MediaBase	Interactive Micro	$149.00		A/V presentations from video, etc.
MediaProcessor	Interactive Micro	$149.00		Video production program, controls genlocks.
MiniVol. 1: Backdrops	Charles Voner	$ 16.95		Mini-volume compiled from VV4 & VV1.
MiniVol. 2: Borders	Charles Voner	$ 16.95		Mini-volume compiled from VV4 & VV1.
Modeler 3-D	Aegis	$ 99.95	1MB	3-D object creation and modeling program.
Mondo Stereo	A-Squared	TBA		Stereo image (3-D) construction kit.
Movie Clips	Gold Disk	$ 34.95		Collection of animation sequences.
Movie 1 or 2	MegageM	$ 10.00		Mandelbrot animation from AutoMag 1.0.
Movie3	MegageM	$ 10.00		Julia Set animation from FractalPro.
MovieSetter	Gold Disk	$ 99.95		WYSIWYG animation.
Olde English Font Set	C Ltd.	$ 49.95		Olde English fonts in various sizes.
Outline Fonts	Gold Disk	$199.95		AGFA Compugraphic fonts for Pro Page.
PageFlipper	Mindware Int.	$ 29.95		Cel animation utility.
Pageflipper Plus F/X	Mindware Int.	$159.00		Cel animation editor/compiler.
PageRender 3D	Mindware Int.	$159.95		3D rendering with ANIM generation.
PageSync	Mindware Int.	$ 99.95		Synchronization of animation with MIDI.
Photon Paint 2.0	MicroIllusions	$149.95	1MB	HAM paint program.
Photon Paint Expansion	MicroIllusions	$ 29.95		Wood and marble surfaces for Photon Paint.
Photon Video: EDLP	MicroIllusions	$499.95		Edit Decision List Processor.
PhotoSynthesis	Escape Sequence	$149.95		Image processing software.
PICK-MAGIC	Joe's First	$ 85.00		Electronically imaged graphic art.
PIXmate	Progressive	$ 49.95		Image enhancement.
Print Master Plus	Unison World	$ 39.95		Print greeting cards and newsletters.
Pro Video CGI Font L	Shereff Systems	$ 99.95		Pacific europa and computer fonts.



SANTA CLAUS IS COMING TO TOWN
Better watch out!
After a test ride on Pocket Rockets, the high-speed motorcycle simulation game, Santa picked up a new sleigh that will make this year's rounds faster than ever. And whether you've been naughty or nice, you could win this Suzuki 600 Katana during "Santa's Sleigh Giveaway" in January.
Meanwhile, experience all the thrills and spills of high-speed racing with machines that take you from zero to 60 in under four seconds. Already gaining critical acclaim, Pocket Rockets lets you choose from four of the quickest, most exotic bikes on the planet. The action's as real as the adrenaline you'll feel.
Then, enter "Santa's Sleigh Giveaway" from Capcom U.S.A. Besides the chance to win a new Suzuki motorcycle, you could get a Bell full coverage helmet, or Capcom computer game software. Look to enter in all Capcom computer game packages or visit your favorite computer game retailer for more information. Capcom's belated Christmas giveaway is just around the bend so don't miss out on your chance to win!
LEFT: Try your skill against the clock with a couple of laps around the test track. RIGHT: Drag racing demands a quick wrist and fast shifting. Just don't blow the engine!
BELL
SUZUKI
Circle 86 on Reader Service card.
POCKET ROCKETS
CAPCOM USA
SWEEPSTAKES RULES How to Enter:
1. NO PURCHASE NECESSARY. Fill out and mail official entry found in package or you can enter by hand printing your name, address and zip code on a 3" x 5" piece of paper and mailing it to CAPCOM Santa's Sleigh Giveaway, 3303 Scott Blvd., Santa Clara, CA 95054. Enter as often as you wish. Each entry must be mailed separately by JANUARY 15, 1990. No mechanical reproductions of entry will be accepted and all mail-in entries must be received at the above address by JANUARY 31, 1990. No responsibility is assumed for lost, late, misdirected, or damaged entries.
2. Prize winners will be determined by means of a random drawing to be conducted by an independent judging organization whose decision shall be final. All prizes listed will be awarded, but there can be only one prize winner per household, group or organization. Odds of winning depend on the number of entries received. Approximate grand prize retail value is as follows: Suzuki Katana $4,495.00. Winners will be notified by mail by FEBRUARY 15, 1990 and may be required to execute affidavits and advertising release. Taxes on prize winnings are solely the responsibility of the winners.
3. Sweepstakes is open to U.S. residents except employees of CAPCOM U.S.A. and their immediate families, its subsidiaries and affiliates, its advertising and promotional agencies, and the judging firm. Prizes won by minors may be awarded to parent or legal guardian. Void where prohibited or restricted by law. All Federal, State and Local regulations apply. For a list of major prize winners send a stamped, self-addressed envelope to CAPCOM Santa's Sleigh Giveaway Winners List, 3303 Scott Blvd., Santa Clara, CA 95054 by MARCH 31, 1990.
CAPCOM® USA



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Pro Video Fonts	Shereff Systems	$ 49.95		11 fonts in 3 sizes.
Pro-Board	Prolific	$475.00	1MB	Professional PCB CAD program.
Pro-Board Jr.	Prolific	$149.00	1MB	PCB layout CAD program.
Pro-Drill	Prolific	$ 99.00		Drill information for PCB layout.
Pro-Net	Prolific	$495.00		Professional schematic capture CAD program.
Pro-Net Jr.	Prolific	$149.00	1MB	Schematic capture CAD program.
Professional Draw	Gold Disk	$199.95	1MB	High-powered graphic arts tool.
Professional Font	Classic Concept	$ 74.95	1MB	Six disks Mono/Color fonts.
ProFonts I	New Horizons	$ 29.95		Fonts package.
ProFonts II	New Horizons	$ 29.95		Fonts package.
Programmer's ToolKit	Interactive Micro	$149.00		Control infrared devices.
Pyre Script Font Set	C Ltd.	$ 49.95		Pyre Script font in various sizes.
Quick-Art Borders	Classic Concept	$ 44.95		Over 100 brush illustrations.
Sampler	The Dragon Group	$ 34.95		Assorted IFF clip art: Amiga Coloring Book.
Sculpt 3DXL	Byte by Byte	$ 99.95		Creates ray-traced graphics.
Sculpt-Animate 4D Jr	Byte by Byte	$150.00		Consumer version of Sculpt-Animate 3D.
Seasons & Holidays	Electronic Arts	$ 29.95		DeluxePaint data.
Secrets of an Artist	Seven Seas	$ 24.95		Assistance and examples of programming.
Simple Script Font S	C Ltd.	$ 49.95		Simple Script in normal bold.
SlideShow1	MegageM	$ 10.00		HAMandel Mandelbrot Juliet Set images.
SlideShow2	MegageM	$ 10.00		More HAMandel images.
Spheres1	MegageM	$ 10.00		Slideshow of HAMandel images "wrapped."
Sports Award Library	Baudville	$ 29.95		For use with Award Maker Plus.
Spritz	PAR Software	$ 79.95		Low-end paint program.
Starships 2050	Polar Arts	$ 39.95		Library of 3-D models includes digitized NASA.
Storybook Capitals	Classic Concept	$ 24.95		Three disks of large brush fonts.
Subheads	Kara Computer	$ 69.95	1MB	Hi-res uppercase 8-color fonts as headlines.
SuperFont Sampler 2.	Classic Concept	$ 34.95		Two-disk set of small/medium fonts.
Talking Animator	JMH Software	$ 49.95		Cel animator with overscan.
Terrain	Impulse	$ 49.95		Fractal topography generator.
Titler	Charles Voner	$ 24.95		Art borders and backdrops for use with titling.
Transport Controller	MicroIllusions	$299.95		Photon Video: drives single-frame.
Turbo Silver	Impulse	$199.00		Ray-trace animation.
T.S. Module Pack	Syndesis	$ 29.95		Add-on modules.
TV Graphics	Slide City	$ 49.95		Video Graphics clip-art disk.
UltraCAD	Progressive	$299.95	1MB	Full-scale high-end CAD.
Unity Roman Font Set	C Ltd.	$ 49.95		Unity Roman in sizes of upright italic.
VedGen	Microft Software	$149.95		Produces embossed background graphics.
Video & Headline Fonts	Classic Concept	$ 44.95	1MB	Three-disk set of large mono/color fonts.
Video Effects 3D	InnoVision	$199.95	1MB	3-D effects and animation.
Video Titler	Spartan	$149.00		Video character and effects generator.
Video Visions: Animation	Charles Voner	$ 59.95		3-volume package: VV2, VV3, VV6.
Video Visions: Program	Charles Voner	$ 34.95	1MB	Animations edit and display program.
Video Visions: Titler	Charles Voner	$ 79.95		Package of 4 volumes: VV1, VV4, VV5, VV7.
Video Wizard	Intracorp	$ 29.95		Identifies blank spaces on video tapes.
Videoscape 3D	Aegis	$199.95	1MB	3D video animation.
VIVA	MichTron	$199.95		Visual Interactive Video Authoring.
VV2: 3-D Animator	Charles Voner	$ 24.95		3-D objects for animation.
VV3: 2-D Animator	Charles Voner	$ 24.95		Images for 2-D page flipping program.
VV5: Broadcaster	Charles Voner	$ 24.95		Images and parts for business-broadcast.
VV6: The Educator	Charles Voner	$ 24.95		History/geography, images and maps.
VV6: Videographer	Charles Voner	$ 24.95		Images for wedding-occasions subjects.
VV7: The Advertiser	Charles Voner	$ 24.95		Products/symbols images disk, clip art.
VV8: Videomaker	Charles Voner	$ 16.95	1.5MB	DPaint III compatible animated hi-res screens.
Weave-It	Joyce I. Peck	$ 74.95		Create weaving patterns.
Weave-It Plus	Joyce I Peck	$ 89.95		Weave-It with added utilities.
WindowPrint II	T & L Products	$ 34.95		Screen capture and dump save and print.
World	The Dragon Group	$ 34.95		Maps from around the globe.

►

BAD TO THE BONE

These are the streets. And there are no rules when you do battle here.

STREETFIGHTER is strictly survival of the fittest against 8 of the baddest dudes from around the world. Watch out for flying scissor kicks, lethal Ninja weapons, and other evil tricks. Block their attacks while you counter with jabs and roundhouse kicks. Don't drop your guard cause these guys aren't just b-b-b-b-bad. They're "Bad to the Bone."

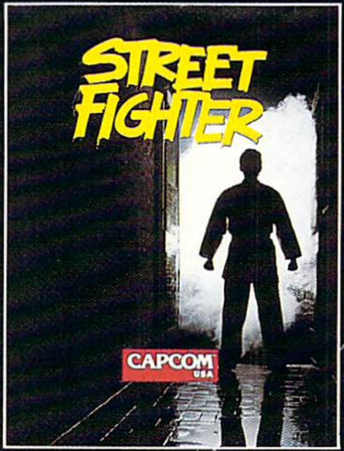
So see your favorite software retailer or call Capcom U.S.A. 408-727-1665. You don't want to keep these guys waiting!

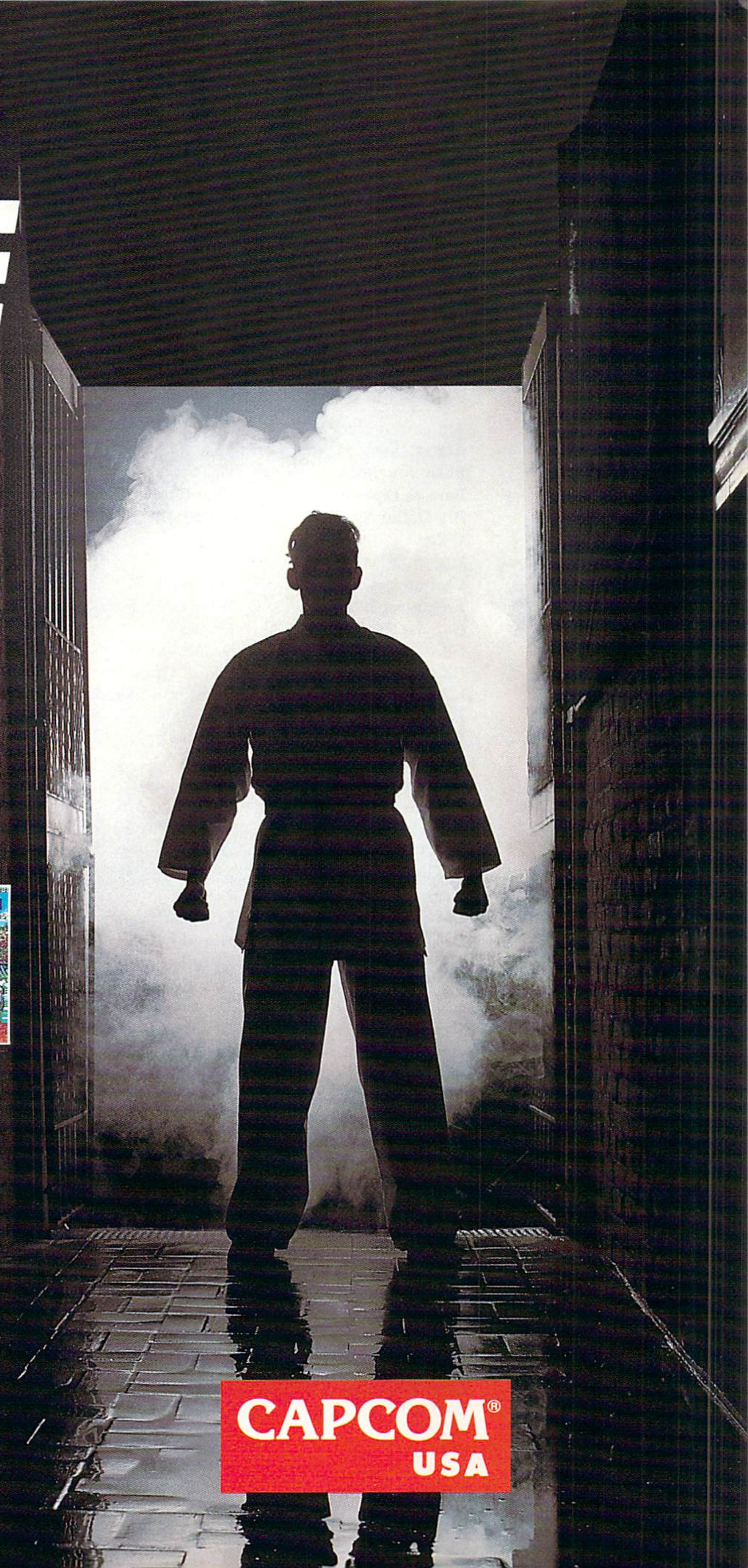


Try a roundhouse kick against an English street tough.



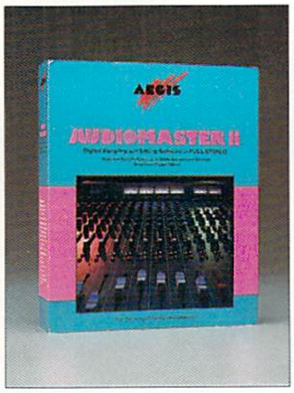
Dodge the lethal Ninja weapons of Geki.





CAPCOM® USA

Circle 12 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
X-CAD	Taurus-Impex	**$599.95**	1MB	Professional 2-D CAD system.
X-CAD Designer	Cadvision Inter.	**$149.00**	1MB	X-CAD improved upon.
X-Port	GrafX Computing	**$ 89.00**		DFX to XCAD translator.
Zoetrope	Antic	**$139.95**	1MB	Animation system.
Zuma Fonts Vol 1–3	Zuma Group	**$ 34.95**		A different set of fonts in each volume.

MUSIC/SOUND

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Animation	WaveTable Tech.	**$ 18.50**		Non-looping sounds.
AudioMaster II	Aegis	**$ 99.95**		Digitized sample editor.
Bach Songbook	Dr. T's	**$ 29.00**		Bach fugues and inventions.
Bars & Pipes	Blue Ribbon Bakery	**$250.00**		Musical compostion system.
Big Dollar Synth	WaveTable Tech.	**$ 18.50**		Samples from studio-quality synthesizer.
C-Zar	Diemer Development	**$195.00**		Casio CZ-1 101/1000 editor/librarian.
Caged Artist	Dr. T's	**$149.00**		Patch editor/librarian series.
Christmas Classics	Free Spirit	**$ 14.95**		Holiday music with scenes.
Composer Disks	WaveTable Tech.	**$ 18.50**		30 samples/volume for Sonix.
Copyist Professional	Dr. T's	**$275.00**	1MB	Music scoring and transcription software.
CZ	Sound Quest	**$145.00**		Editor librarian.
CZ Master	Sound Quest	**$125.00**		Editor/librarian, supports Casio CZ series.
CZ-Pat	CRB Productions	**$ 35.00**		Editor/librarian for the Casio 101/1000.
D-10/20/110	Sound Quest	**$145.00**		Editor librarian.
D50/TX802	Sound Quest	**$150.00**		Edit D50 data.
D50 Voices	Dr. T's	**$ 49.00**		300+ sounds for the D50 editor.
Deluxe Music	R. Shannon Dynamics	**$ 29.95**		Tutorial and tools.
Deluxe Music Const. Set	Electronic Arts	**$ 99.95**		Music editor and score printer.
DNA Music	Silver Software	**$ 19.95**		Music based upon DNA molecule.
Dr. Drums	Dr. T's	**$ 29.00**		MIDI drum patterns in KCS format.
Dr. Keys	Dr. T's	**$ 29.00**		Keyboard patterns for KCS.
Drum Studio	DigiTek	**$ 29.95**		Percussive composition program.
DWEL	Synthetic Reality	**$ 79.00**		DW-8000 or EX-8000 editor librarians.
DX II	Sound Quest	**$175.00**		DX Master plus 13 types of DX II Sys Ex data.
DX11-TX812	Sound Quest	**$145.00**		Editor/librarian.
DX Master Editor, The	Sound Quest	**$145.00**		Edits DX-7 DX-9 and TX data files.
DX Voices	Dr. T's	**$ 49.00**		Sounds for the DX-7 in Dr. T's format.
Dynamic Drums	New Wave	**$ 79.95**		Drum machine.
Dynamic Drums II	New Wave	**$ 79.95**		Incorporate drum sounds and graphics.
Dynamic Studio	New Wave	**$199.95**	1MB	Sequencer drum machine and event editor.
Editor Librarian	Dr. T's	**$149.00**		Supports Roland D-10/110 synthesizers.
Editor Librarian Series	Music Soft	**$199.95**		For use with MT32 synthesizer.
Editor/Librarian	Dr. T's	**$149.00**		For use with Ensoniq ESQ-1 sequencer.
Editor/Librarian	Dr. T's	**$149.00**		For use with Roland D-50 sequencer.
Editor/Librarian	Dr. T's	**$149.00**		For use with Roland MT-52 sequencer.
Editor/Librarian	Dr. T's	**$149.00**		For use with Yamaha DX7 sequencer.
Editor/Librarian	Dr. T's	**$149.00**		Yamaha TX-81Z, FB01, DX100, DX27.
Editor/Librarian	MIDITalk	**$ 79.00**		Editor/librarian for the Yamaha TX81Z.
Express Patch FB-01	Digitools	**$ 44.95**		Voice editor for Yamaha FB-01.
EZ-CZ	New Wave	**$ 69.95**		Patch editor for Casio CZ-series.
FB01	Sound Quest	**$125.00**		Editor/librarian.
FB-01 DataFiler	Triangle Audio	**$ 60.00**		Allows access to Yamaha FB-01.
Fractal Music	Silver Software	**$ 19.95**		Music and graphics based upon fractals.
Grab Bag	E.C.T. Sampleware	**$ 18.00**		Miscellaneous samples.
Guitar Chord Tutor	Synthetic Reality	**$ 39.00**		Graphical interface, teaches guitar.
HMSL	Frog Peak Music	**$150.00**	1MB	Programming language for music.

FROM THE CREATORS OF SUPERGEN,™ THE INDUSTRY STANDARD AMIGA GENLOCK & OVERLAY DEVICE

SuperGen2000s™

THE FIRST TRUE Y/C GENLOCK & OVERLAY CARD FOR THE AMIGA 2000 SERIES COMPUTERS

- ▲ S-VHS, ED-BETA, Hi8 compatible
- ▲ broadcast quality NTSC RS-170A output
- ▲ built in SC/H phase adjustability
- ▲ built in sync generator ▲ dissolves

$1595



DIGITAL CREATIONS

Digital Creations 2865 Sunrise Boulevard Suite 103, Rancho Cordova CA 95742 Telephone 916/344-4825 FAX 916/635-0475

Coming Attractions in 89:
Living Color™ System: Frame Buffer, Digitizer, Time Base Corrector, Digital Video Effects (DVE); V Machine,™ desk top video workstation

Circle reader response card, see your dealer, or call for more information

Circle 28 on Reader Service card.

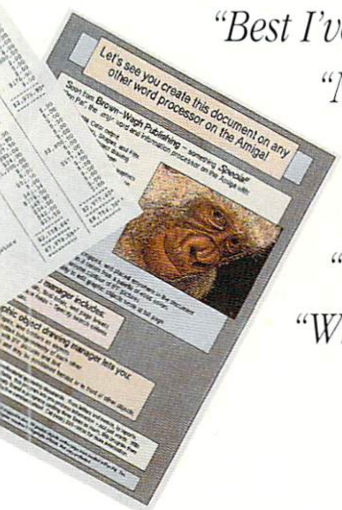


PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Hot & Cool Jazz	Electronic Arts	$ 29.95		Music data disk.
Hyperchord	Hologramophone	$129.00		Music Exploration Kit: music environment.
Instant Music	Electronic Arts	$ 49.95		Play music with mouse.
It's Only Rock 'N Roll	Electronic Arts	$ 29.95		Instant Music songs.
K1 Quest	Sound Quest	$145.00		Editor/librarian.
KCS V1.7	Dr. T's	$249.00	1MB	Keyboard Controlled Sequencer.
Level II	Dr. T's	$349.00	1MB	Advanced and enhanced version of KCS.
Lucy Scale	Lucy Scale Dev.	$ 48.00		Music understanding package.
M1	Sound Quest	$175.00		Editor/librarian.
M for the Amiga	Intelligent Music	$199.00	1MB	Interactive composition and performance.
Master Librarian, The	Sound Quest	$125.00		Edit Sys Ex data from MIDI equipment.
Matrix 6/1000	Sound Quest	$145.00		Editor/librarian.
Mellotron	WaveTable Tech.	$ 18.50		Original Mellotron voices.
MIDI Delay	Triangle Audio	$ 50.00		Delays MIDI data with real-time control.
MIDI Magic	Circum Design	$149.95		MIDI sequencer.
MIDI Recording Studio	Dr. T's	$ 69.00	1MB	8-track version of KCS.
MIDI Sample Wrench	dissidents	$279.00		Works with 16-bit CD-quality sounds.
MIDI-Mice	Tensor Productions	$ 85.00		Control programs from MIDI instruments.
MidiVU	Diemer Development	$ 39.95		MIDI monitor, one-track recorder.
MT-32 Quest	Sound Quest	$145.00		Editor/librarian.
Multi Quest	Sound Quest	$175.00		Bank editor/librarian.
Music Mouse	Aesthetic Engineering	$ 79.95		Turns your system into an instrument.
Music Studio	Activision	$ 79.95		Music editor: supports MIDI devices.
Music-X	MicroIllusions	$299.95		Manipulate scores; control MIDI devices.
OPUS-1 MCL	Ariadne	$ 99.95		Music composition language.
Orchestral Disk	E.C.T. Sampleware	$ 18.00		Orchestral IFF and Mimetics samples.
Pattern Splatter	Mimetics	$ 49.95		Arpeggiation and composition module.
Peggy	Triangle Audio	$ 50.00		MIDI arpeggiator.
Performance	Pregnant Badger	$179.95		Database for performing musicians.
Pixound	Hologramophone	$ 49.00		Musical screen interpreter.
ProSound Designer	Precision	$159.95		Sound sampler.
Protein Music	Silver Software	$ 19.95		Music based upon 20 amino acids.
QRS Music Rolls	Micro W	$ 19.95		Demo disk of sample songs.
Quasar Sound	Centaur	$ 59.95		stereo sampling/sound editing.
Quest Sequencer	Sound Quest	$150.00		Texture version.
Real Brass	WaveTable Tech.	$ 18.50		Brass instruments digitally recorded.
Rock Disk	E.C.T. Sampleware	$ 18.00		Rock samples.
SAM series	A.M.S.	$239.00		Data acquisisition system.
Sonix	Aegis	$ 79.95		Synthesizer and note editor.
Sonix Data Disks	True Light Software	$ 34.95		Collection of digitized sounds.
Sonix SoundTrax I & II	Aegis	$ 19.95		Interactive songs for use with Sonix.
Sound Lab Amiga	Blank Software	$295.00		Edit sampled sound from Ensoniq Mirage.
Sound Oasis	New Wave	$ 99.95		Reads Mirage sample disks.
SoundScape Pro	Mimetics	$179.00	1MB	MIDI Studio 1.4: sequencer.
SoundScape System	Mimetics	$375.00	1MB	Utilities I, sampler, MIDI interface.
Soundshop	Revolution Software	$ 49.95		Create and edit waveforms.
Soundshop 2.0	West Chester Software	TBA		Sound sample and SMUS music editor.
SpeakerSim	dissidents	$112.00		CAD package for designing loudspeakers.
SQ-80/ESQ	Sound Quest	$145.00		Editor/librarian.
SQ-80 Quest	Sound Quest	$150.00		Ed./lib. for Ensoniq SQ-80/ESQ-1/ESQ-M.
Symphony Library	Speech Systems	$ 39.95		Eight disks $39.95 ea., 100+ SMUS songs.
Symphony Songs	Speech Systems	$ 24.95		Sampled music in IFF format.
Synthia	The Other Guys	$ 99.00		High-performance digital synthesizer.
Synthia Pro.	The Other Guys	$395.00		Professional 16-bit synthesizer.
Texture	Magnetic Music	$299.00		MIDI sequencer.
Tiger	Dr. T's	$149.00		Interactive graphic editor.
TX81Z Quest	Sound Quest	$125.00		For Yamaha TX81Z, DX100, DX21.
Utilities I	Mimetics	$ 49.95		Utilities module for SoundScape.



*"**Pen Pal** is clearly the first of the next generation of graphic wordprocessors...Save your money folks (and it won't take as much as you might think), **Pen Pal** is going to be required software for your Amiga."*

Tom Malcom; INF0 Magazine



*"Only had **Pen Pal** 3 hours and it's super!"*
"Best I've ever seen for any machine."
"Meets all my needs in one package."
"More fun than most games."
"Switched from Excellence!"
"The one we've been waiting for."
"Wheee!"

Direct quotes from Pen Pal registration cards

Just another word processor?

THINK AGAIN. Pen Pal is unlike any other. The printing and graphics are extraordinary. The value, exceptional.

Just look at these samples from various printers. The text and graphics are blended beautifully – words wrapped around pictures – pictures printed in original colors and resolutions – lines, boxes, shadows and borders added for emphasis – graphics mixed with letter quality fonts.



Requires Amiga 500, 1000, 2000 or 2500 with 1 Meg RAM and 1 disk drive.

WANT MORE FOR YOUR MONEY? Pen Pal manages all kinds of lists with names, addresses, dates and amounts. Printing reports, form letters or mailing labels couldn't be easier. Different size forms for invoices and phone messages can be designed and filled in, field by field.

The reviews and registration cards sum it up. Word processing, simple page-layout, database management, and forms fill-in have been combined into one easy-to-use, yet powerful program.

This is a steal. Grab it fast.

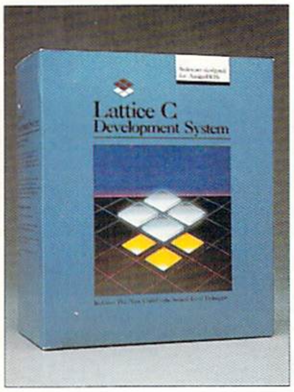
Pen Pal - Only $149.95

Developed by Softwood Company

Brown Wagh

(408) 395-3838 (in CA)
(800) 451-0900

Circle 165 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Utilities II	Mimetics	**$ 49.95**		More utilities: module for SoundScape.
VIDI-Mice	Tensor Productions	**$ 85.00**		Transform video into mouse events.
WAVE	MIDImouse Music	**TBA**	1MB	Professional sample generation system.
X-or	Dr. T's	**$299.00**		Universal system-exclusive editor/librarian.
Xpress Patch 1.1	Digitools	**$ 44.95**		Interface to Yamaha synthesizers.
ZOUNDS! Sounds	AlohaFonts	**$ 19.95**		Digitized sounds.

PERSONAL/HOME

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Ami-X-10	Digital Dynamics	**$ 59.50**		Control electrical switches.
Bible On Disk	Don Keiffer	**$ 59.95**		Complete bible on disk.
BowlMaster	Software Ingenuity	**$ 34.95**		Personalized bowling score keeper.
Cal CalenderMaker	Gramma Software	**$ 49.95**		Nag module or stand-alone.
Common LISP Interpreter	McCauley	**$ 99.95**		Includes 335-micro special forms.
Desktop Budget	Gold Disk	**$ 69.95**		Icon-based personal finance program.
Desserts Cookbook	Meggido Enterprises	**$ 14.95**		Over 150 nutritionally-analyzed recipes.
FreD	Gramma Software	**$ 49.95**		Index and automatic telephone dialer.
GENP	GENP	**$150.00**		Genealogy database.
Home I	Software Visions	**$ 39.00**		Templates for Microfiche Filer.
Home Inventory Manager	SunSmile Software	**$ 29.95**		Personal inventory.
Home Management	ArborSoft	**$ 99.00**		Home financial management.
Investment	HiResolution	**$ 49.95**	1.5MB	Stock investment; track interests.
Investor's Advantage 2.0	Software Advantage	**$ 99.95**		Analysis tool for stock selection, etc.
Lotto Program	Soft-Byte	**TBA**		Analyzes past winners, plots probability.
MicroLawyer	Progressive	**$ 59.95**		Standard legal templates and forms.
Momentum Check	Micro Momentum	**$ 29.95**		Check book management program.
Momentum Mail	Micro Momentum	**$ 29.95**		Mailing list management program.
NAG Plus	Gramma Software	**$ 79.95**		Schedule assistant that verbally reminds.
Nutri-FAX	Meggido Enterprises	**$ 59.95**		Analyzes recipes for common nutrients.
Phasar	Antic	**$ 89.95**		Finance package.
PowerMaster	Complications	**$ 22.00**		Interface A2000 fixtures, appliances.
Recipe-FAX	Meggido Enterprises	**$ 39.95**		Adjust recipe yields.
Securities Analyst	Free Spirit	**$ 79.95**		Stock charting and analysis program.
Take-Stock	East-West Software	**$ 49.95**		Portfolio management system.
Tax Break	Oxxi Inc.	**$ 79.95**		Personal tax preparation.
The Advantage	Gold Disk	**$ 79.95**		Integrated spreadsheet, database, graphics
Total Control Diet	Lee Software	**$ 99.00**		Nutritional analysis.
Variety Cookbook	Meggido Enterprises	**$ 14.95**		Recipes for entrees and more.
Video Cataloger	SunSmile Software	**$ 29.95**		Keeps track of your video collection.

PROGRAMMING

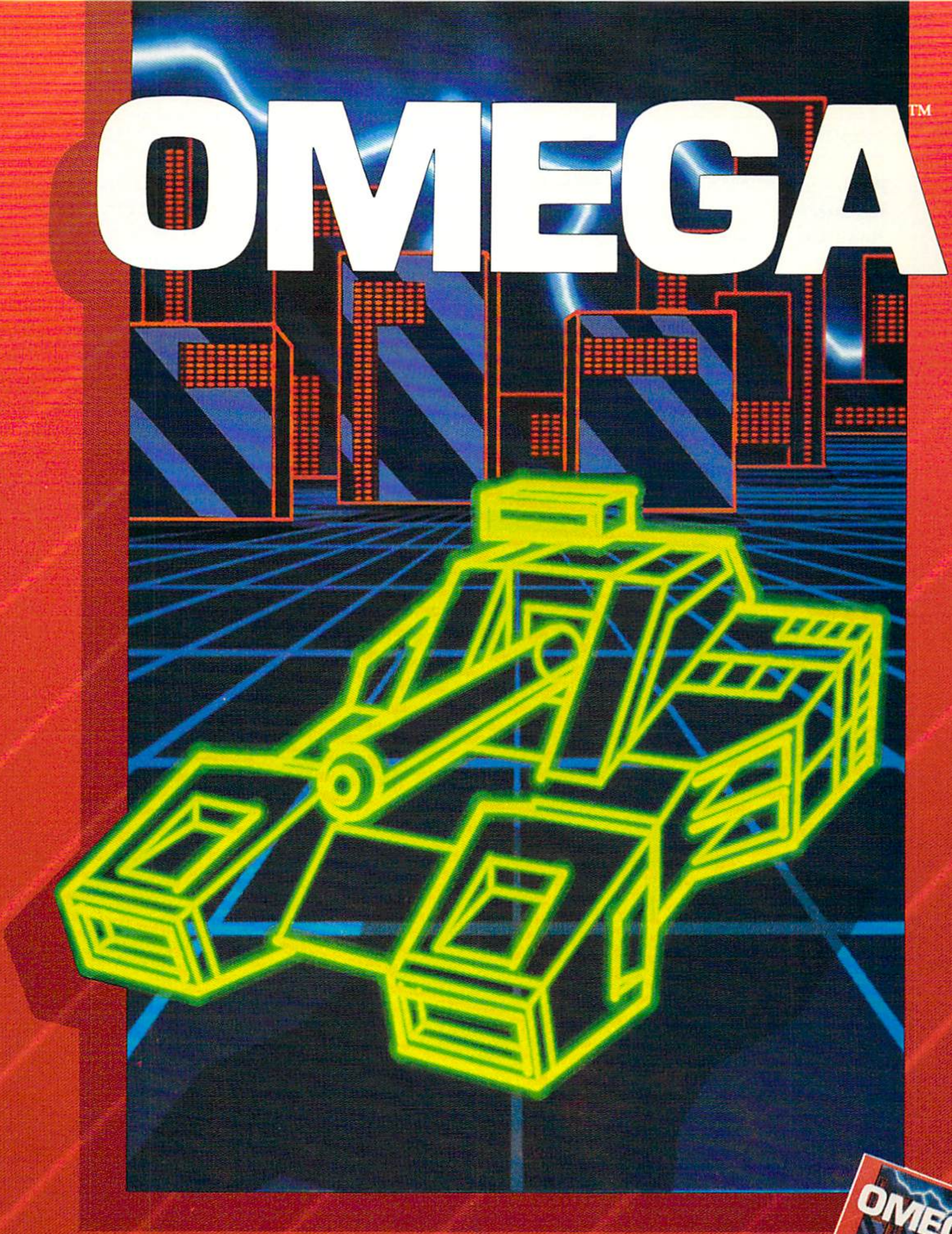
PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
3-D Graphics Toolkit	True BASIC	**$ 69.95**		Graphic design routines.
A/C Basic	Absoft	**$195.00**		BASIC compiler.
A/C Fortran	Absoft	**$295.00**		Fortran 77 compiler.
Advanced String Library	True BASIC	**$ 69.95**		String handling routines.
Adventure Workshop	SunRize Industries	**TBA**		Game development language.
AiRT Programming Lang.	PDJ Software	**$ 64.95**		Icon-based programming language.
Amiga FFT C Package	ACDA	**$152.00**		Fast Founier Transform routines.
AmigaDOS C Dev. System	Lattice	**$300.00**		C compiler and utilities.
AmigaView	ACDA	**$ 79.95**		Intuition and graphics object libraries.
APL 68000	Spencer Organization	**$149.00**		APL for the Amiga.


SIDESHOW™
8 GREAT ACTION GAMES IN ONE.
AND
EXCLUSIVE INTERACTOR™ DIGITIZING FEATURE
Step Right This Way
Step right up . . . step right up . . . to the world's most amazing SideShow. Purchase a child or adult ticket and spend the day at lots of great action arcade events. All guarantee laughs, fun, and excitement.
Test your aim at Balloon Alley, your reflexes at the Dunk Tank, and then your accuracy at throwing Knives. Try hitting the bell at the top of the high-striker pole to test your strength, and then try getting out alive from Haunted Hill, and there's more. So step right up, step right up, grab your popcorn and spend the day at the SideShow.
BALLOON
Interactor™ lets you put yourself in the game
■ 8 Super Arcade games in One.
■ Fast Action Smooth Animation.
■ Exclusive Interactor™ lets you digitize or paint anyone to put them in the dunk tank. (Imports IFF file).
■ 60 Digitized sound effects.
■ Mouse or Phaser Gun (Optional).*
■ 3 Disk set. (Not copy protected. Make backup or transfer to hard disk).
ALSO
Includes child and adult ticket and Real Caramel Popcorn (sorry, cotton candy wouldn't fit).
ACTIONWARE™
ACTIONWARE, INC.
38 W 255 Deerpath Road
Batavia, Illinois USA 60510
(708) 879-8998 FAX (708) 879-6880
*Commodore AMIGA version only. Others may vary.
Circle 7 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
ARexx	William S. Hawes	**$ 49.95**		Implementation of ARexx.
AssemPro	Abacus	**$ 99.95**		Language development system.
Aztec C68k/Am-d	Manx Software	**$299.00**		C development system.
Benchmark Modula-2	Avante-Garde	**$199.95**		Modula-2 development system.
C Toolkit	Software Ingenuity	**$ 39.95**		Source for 200+ functions.
C Utility Library	Essential Software	**$185.00**		400+ functions, source-code librarian.
C.A.P.E.	INOVAtronics	**$ 89.95**		Complete Assembler Programming Environ.
CADS	Future Computer	**$149.95**	1MB	Simplifies construction of C statements.
Cambridge LISP	Metacomco	**$199.95**		AI language.
CanDo	INOVAtronics	**$149.95**	1MB	Audio/visual authoring system.
CB Tree 3.01	Peacock Systems	**$195.00**		Record indexing system.
Communications Library	Essential Software	**$185.00**		Functions for X-modem timer and keyboard.
Communications Library	Lattice	**$250.00**		Set of C functions.
Compiler Companion	Lattice	**$100.00**		Ten utilities for programming.
Conversation	Jenday Software	**$ 34.50**		Amiga Basic demos and source code.
Cross Compiler	Lattice	**$750.00**		Includes C compiler and debugger.
dBC III Library	Lattice	**$150.00**		Program stand-alone dBase applications.
Developer System	Manx Software	**$399.00**		Includes SDB Aztec Shell C Compiler.
Developer System	Manx Software	**$724.00**		With SDB and Library Source.
Developer's Toolkit	True BASIC	**$ 69.95**		Amiga-specific True BASIC libraries.
Devpac AMIGA	MichTron	**$ 99.95**		Assembly language.
DSM 1.0D	OTG Software	**$ 67.50**	1MB	MC68000 disassembler.
Essential Graphics	Essential Software	**$250.00**		Graphics routines.
Extend	SunSmile Software	**$ 39.95**		Amiga Basic command extension.
F-BASIC 2.0	Delphi Noetic	**$ 89.95**		An enhanced, compiled BASIC language.
FASM68 6809	RockLogic	**$ 49.95**		Cross assembler.
File Tools	Sistemas Delta	**$ 29.95**		True BASIC libraries includes source code.
Fortran 020	Absoft	**$495.00**		Fortran 77 for the 68020.
GFA-BASIC 3.0	Antic	**$139.95**		Programming language.
HiSoft BASIC Pro	MichTron	**$159.95**		BASIC language and compiler.
InovaTools	INOVAtronics	**$ 79.95**		Routines in C.
InovaTools 2	INOVAtronics	**$ 79.95**		Assembler routines for the novice.
ISO Pascal	Metacomco	**$ 99.95**		Pascal compiler.
J-Forth Professional	Delta Research	**$179.95**	1MB	Target compiler; commercial development.
Key to C V. 2.02	Data Research	**$ 34.95**		Linkable C extensions.
Lattice C++ Compiler	Lattice	**$300.00**	1.5MB	Superset of the C language.
LDebug,V.1	LogiComp Software	**$ 49.95**		For Lattice C, Benchmark Modula-2.
Library Plus	Essential Software	**$250.00**		Communications Library w/on-line data.
Library Source	Manx Software	**$300.00**		Source for libraries (Aztec Run Time).
Lint for the Amiga	Gimpel Software	**$ 98.00**		Binary license for C single CPU.
M2Amiga	Interface Tech.	**$249.00**		Modula-2 compiler.
M2Sprint	M2S	**$385.00**		Modula-2 compiler.
Macro Asembler	Metacomco	**$ 99.95**		Amiga 68000 macro assembler.
Metascope The Debugger	Metadigm	**$ 95.00**		Examine and change executable code.
MIN	Pecan Software	**$199.95**		Miniac Program Generator.
Modula-2 Toolbox	Pecan Software	**$299.95**		Modula-2 tools library sources toolkit.
Multi-Forth	Creative Solutions	**$ 99.00**		Forth compiler.
Out of the Blue	Paragon Software	**TBA**		Program development system.
Panel	Lattice	**$195.00**		Create custom screens.
Power System	Pecan Software	**$249.95**		Development package.
PowerWindows	INOVAtronics	**$ 89.95**		Interactive software; source code.
PQ4	Pecan Software	**$ 79.95**		PDQ PASCAL for the Amiga.
Pro-ASM	Prolific	**$ 85.00**		Macro cross-assembler for the Z80 family.
PROFASM65	RockLogic	**$ 39.95**		6502 cross assembler.
QEDit	Subliminal Software	**$ 30.00**		Programming editor.
Quelo Cross Assembler	Avocet Systems	**$750.00**		Transfer code: supports 68000-010.
Quelo Cross Assembler	Avocet Systems	**$5500.00**		Full Source code: 14 disk set.
Quelo Cross Assembler	Avocet Systems	**$3500.00**		Source Code (minimal).

►



Neural Cybertank Design and Simulation

Cybertank engineers control the destiny of the Organization for Strategic Intelligence. They're the heart of the **OMEGA** Project, a classified military contract that's shaping combat's future. Employing tomorrow's technology, OSI cybertank engineers design the chassis and artificial intelligence (AI) for the next generation of neural armored warriors — and they gauge their success on a simulated field of battle. Join these elite ranks, and pit your designs against the world's best.

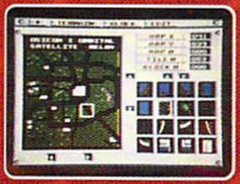




IBM/COMPATIBLE VERSION



IBM/COMPATIBLE VERSION



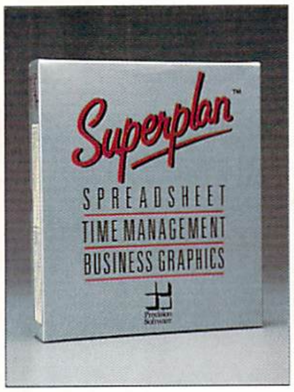
APPLE VERSION

ORIGIN™
We create worlds.™

Available for: IBM/Tandy compatibles, C-64/128, Apple II series, Atari ST and Amiga, *coming soon for*, Macintosh and Apple IIgs; actual screens may vary.

*Can't find **OMEGA** at your local retailer?* Call 1-800-999-4939 (8am to 5pm EST) for Visa/MC orders; or mail check or money order (U.S.$) to ORIGIN. All versions **$49.95**, shipping is **FREE** via UPS. Allow 1-2 weeks for delivery. **ORIGIN, P.O. Box 161750, Austin, Texas 78716.**

Circle 21 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
RDB	Pecan Software	$ 59.95		Swan's Relational Database.
ReSource	Puzzle Factory	$ 75.00		Interactive disassembler.
Run-time Module	Precision	TBA		Developer's run-time modules.
SDB	Manx Software	$125.00		Aztec source-level debugger.
SFT	Pecan Software	$ 49.95		SoftTeach Tutorial.
SmartFields	Software Ingenuity	$ 39.95		Replacement for Intuition string gadgets.
Sorting & Searching	True BASIC	$ 69.95		Optimized routines.
Source Builder	Software Integration	$ 99.95		Automates source code development.
Source Level DeBugger	Delphi Noetic	$ 60.00		DeBugs F-BASIC programs at source level.
Source Level Debugger	Avante-Garde	$149.95		For use with Benchmark Modula-2.
ToolBox	Mirage Studio	TBA		Configurable integrated environment.
ToolBox 1	Pecan Software	$449.95		Debugger, applications services, etc.
ToolBox 2	Pecan Software	$549.95		Performance Monitoring Toolkit, etc.
ToolCaddy	ToolCaddy Works	$ 29.95		Assembly language programming support.
ToolCaddy Docs	ToolCaddy Works	$ 19.95		On-line help: Amiga function calls.
ToolCaddy Docs	ToolCaddy Works	$ 19.95		On-line help: MC68XXX instructions.
ToolCaddy Docs	ToolCaddy Works	$ 19.95		On-line help: include files.
Toolkit	Metacomco	$ 49.95		Disassembler, MAKE, AUX, CLI.
Tshell	Metran Technology	$ 49.95		Development shell and language.
UBZ Forth	UBZ Software	$ 85.00		FORTH-83 compatible.
UltraCard	Intuitive Tech.	$ 50.00		Application construction kit.
UNH Prolog	Univ. of NH	$ 75.00	1MB	Standard Prolog interpreter.
User Interface Library	Sistemas Delta	$ 29.95		True BASIC libraries includes source code.
Waveform Easel	Silver Software	$ 19.95		Draw waveform tables with a mouse.
WShell	William S. Hawes	$ 49.95		Command shell supports ARexx.

SPREADSHEETS

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Analyze!	Micro-Systems	$ 99.95		5 spreadsheets, graphs, dictionary, more.
Haicalc	Haitex	$ 59.95		Spreadsheet.
Logistix	Progressive	$149.95		Spreadsheet and project planner.
MaxiPlan 3.0	Intuitive Tech.	$249.95	1MB	With graphics capabilities and database.
Q-2-Q	Banana Software	$ 49.95		Idea spreadsheet.
Superplan	Precision	$149.95		Time management and presentation graphic
Templicity	Sterling Connection	$ 29.95		60 ready-made templates for spreadsheets.
Unicalc 1.1	Lattice	$ 49.95		Intuition based, 256 columns × 8192 rows.
VIP Professional	ISD Marketing	$ 99.95		Lotus 1-2-3 Version 1A clone.

TELECOMMUNICATIONS

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
AmigaTerm	Commodore	$ 49.95		Simple telecommunications.
A-Talk III	Oxxi Inc.	$ 99.00		Includes protocols, emulations.
Baud Bandit	Progressive	$ 49.95		On-line interface for telecommunications.
BBS-PC!	Micro-Systems	$149.95		Bulletin board system.
Custom-BBS! 2.7	Celestial Data	$100.00	1MB	Customizable bulletin-board system.
Dr. Term Professional	Progressive	$ 99.95		Professional terminal program.
Middleman	Benaiah Computer	$ 59.95		VT100 emulation supports graphics.
Middleman II	Benaiah Computers	$149.95		Tekronix 4105 color terminal emulator.
Online! Platinum	Micro-Systems	$ 99.95		Telecommunications program.
Plato Access Disk	Subliminal Software	$ 30.00		Terminal emulator.

SupraDrive™

Simply The Best Amiga Hard Drive.

Before you buy a hard drive, look around. Look closely. Compare speeds, but also look at Interfaces...Software...Value. We think you'll agree that SupraDrives are Simply The Best Amiga Hard Drives. Here's why ...



SUPRADRIVE HARD CARD FOR AMIGA 2000
with revolutionary new **WORDSYNC™ INTERFACE**

Each SupraDrive for the A500/A2000: Autoboots directly from FFS partition • Interface allows super smooth video, sound, etc., with no rude interruptions for hard drive access • Compatible with Bridgeboard™, RAM, digitizers, other boards • Supports MS-DOS disk partitions with Bridgeboards • Installs easily • Pre-formatted & ready to use • Includes 2 floppy disks of software & clear, thorough manual • Fine tuned assembly language driver software • Blind data transfers improve speed 3x • Knowledgeable tech support • Interfaces also available separately

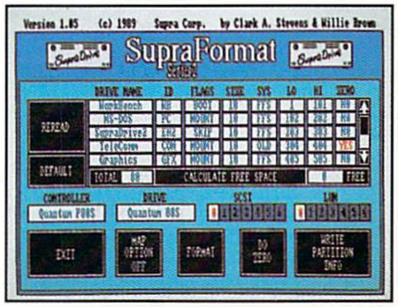
SUPRADRIVE FOR AMIGA 500
with **AMIGA BUS PASS-THROUGH** for unlimited expansion • **OPTIONAL 2MB RAM**



All Supra Products Are Made in the U.S.A.

Breakthrough Speed.

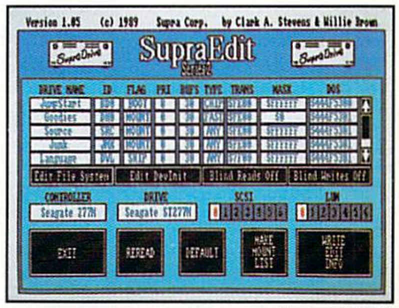
SupraDrives give you access times as low as 11 ms. and data transfer speeds of over 500K/sec. (Amiga® 2000) or 326K/sec. (Amiga 500). Features like full support of Workbench™ 1.3, the Fast File System (FFS), and multitasking make these drives *FLY*.



SupraFormat™

State-of-the-Art Interfaces.

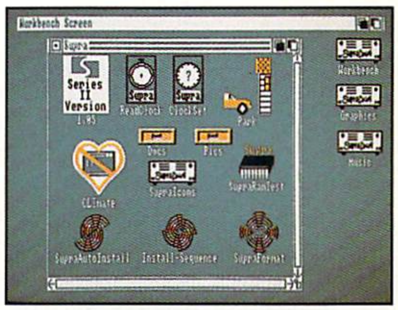
Supra's interfaces (included with every SupraDrive) give you innovative features no one else can match. The revolutionary WordSync™ Interface transfers 16 bits at once, which gives A2000 SupraDrives DMA speed without DMA hassle. The A500 interface passes the Amiga bus signal through to your other peripherals; without Amiga bus pass-through, your system is severely limited. And all Supra interfaces feature SCSI ports for easy daisy-chaining.



SupraEdit™

The Best Software.

After installing the drive, you'll be glad you have Supra's full array of powerful, easy-to-use software. SupraFormat makes formatting a breeze and lets you use up to 30 partitions and various file systems — FFS, MS-DOS®, Unix, Macintosh™, and more! SupraEdit lets you access low-level Amiga system information, and other included programs make using a hard disk fun and easy.



Included Software

Irresistible Value.

All this is available at a price you'll love. Look into it! Only Supra Corporation — an experienced company with a proven commitment to the Amiga and its potential — gives you such an attractive alternative: The SupraDrive. It's Simply The Best Amiga Hard Drive.

Ask your dealer for details, or call:

Supra Corporation

1133 Commercial Way Albany, OR 97321 503-967-9075
ORDERS: 1-800-727-8772 Circle 208 on Reader Service card.

SupraDrive, WordSync, SupraFormat, and SupraEdit are trademarks of Supra Corp. Amiga is a registered trademark and Workbench is a trademark of Commodore-Amiga, Inc. MS-DOS is a registered trademark of Microsoft Corp. Macintosh is a trademark of Apple Computer.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
TeleTutor	Micro Momentum	$ 29.95		Interactive telecommunications tutorial.
VTXON-Line	MichTron	$ 79.95		Telecommunications product with Protext.
X11	GfxBase	$395.00		X11 runtime package.

UTILITIES

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
64 Emulator	Ready Soft	$ 39.95		Emulates C-64.
A-Max	Ready Soft	$199.95		Macintosh emulator.
AMI	Free Spirit	$ 49.95		Drive evaluation and head alignment.
Amiga PostCode	FBN Software	$ 49.00		Pop-up index to Australian postal codes.
Amiga SmartKey	FBN Software	$ 59.95		Keyboard macro program.
AmigaDOS Express	Bantam Software	$ 29.95		Disk-based AmigaDOS manual.
AmigaDOS Toolbox	Abacus	$ 59.95		Collection of utilities.
AutoKick 1.3	DigiSoft	$ 29.95		Upgrade kit.
B.A.D.	Centaur	$119.00		Disk optimizer.
BOBshop	Revolution Software	$ 49.95		Create and edit GELs.
Calligrapher	Inter/Active Softworks	$100.00		Colorfont design package.
CLImate	Progressive	$ 39.95		Access AmigaDOS from Workbench.
CygnusEd Pro	ASDG	$ 99.95		Editing utility.
DigiScope	ACDA	$139.95		Digital oscilloscope emulation.
Dimmer!	PAR Software	$ 19.95		Turns off your screen when not in use.
Disk Aide	Oxxi Inc.	TBA		Optimizes and recovers data.
Disk Mechanic	Lake Forest Logic	$ 89.95		Hard disk backup, file recoverer.
DiskMaster	Progressive	$ 49.95		File management utility.
DisKwik 2.0	Tigress	$ 49.95		Disk editor and repair utility.
DOS LAB	Jumpdisk	$ 25.00		Tutorial covering AmigaDOS 1.3.
DOS-2-DOS	Central Coast	$ 55.00		Read/write MS-DOS or Atari ST files.
Doug's Color Commander	Seven Seas	$ 29.95		Clone Doug's interface to other programs.
Dump Utility	Progressive	TBA		Interface with interactive programs.
Encore	Elipsys	$ 69.95		Record keystrokes and mouse movement.
Enhanced Stimulus	AZ/Tech	TBA		Computer-to-mind interface.
EQPlot	Scientific Software	$ 35.00		Equation plotter.
ES-5C Calculator	Emusoft Corp.	$ 19.95		Programmable calculator.
ExpressCopy	Express-Way	$ 44.95		Hard disk backup.
EZ-Backup	EZ-Soft	$ 49.95		File backup program.
FACC II	ASDG	$ 34.95		Disk performance enhancer.
Fat Tracks	Micro Systems	TBA		Backup utility.
FINDEX V	E. Arthur Brown	$ 49.95		Data/text storage and retrieval system.
Flow	New Horizons	$ 99.95		Outline processor.
Fonts 1	LaserUp!	$ 39.95		Fonts for LaserWriter.
Fruit 2 Friend	Top Disk Software	$ 49.95		Read/write Apple IIe ProDOS and DOS.
Golden Music	Silver Software	$ 19.95		Music based on the golden mean.
Help for Calligrapher	RGB Video Creations	$ 44.95		Deluxe Help's on-line interactive tutorial.
Help for DeluxePaint II	RGB Video Creations	$ 34.95		Deluxe Help's on-line interactive tutorial.
Help for Digi-Paint	RGB Video Creations	$ 34.95		Deluxe Help's on-line interactive tutorial.
Help for PageSetter	RGB Video Creations	$ 34.95		Deluxe Help's on-line interactive tutorial.
Help for Photon Paint	RGB Video Creations	$ 34.95		Deluxe Help's on-line interactive tutorial.
ICONizer	Royal Software	$ 29.95		Create custom icons.
ImageLink	Active Ciruits	$299.95	1MB	Multi-format imaging conversion.
Interchange	Syndesis	$ 49.95		Share 3-D objects among programs.
Interface Toolkit	Emerald Intellegence	$249.00	1MB	Development tool.
Jet Set	C Ltd.	$ 39.95		Driver and utilities for HP LaserJet Plus.
Jet Set Font Sets	C Ltd.	$ 99.95		Fonts for Jet Set.
JMH Easy Titler	JMH Software	$ 49.95	1MB	Character generator: add your own fonts.
Laser Up! Utilities 1	S. Anthony Studios	$ 39.95		IFF to Postscript.

THE BEST FOR YOUR AMIGA® 2000

SupraDrive™ with WordSync™



- Easy-to-Install, Autobooting Hard Card with WordSync™ Interface
- WordSync Interface Kit also available separately
- Interface transfers 16 bits at once, giving DMA Speed Without DMA Problems
- Eliminates the sound, video, and serial I/O interruptions found with DMA iinterfaces
- 1-slot design & SCSI-out port
- Easy On/Off Autoboot Jumper
- Compatible with Amiga Bridgeboard, RAM, digitizers, and other boards
- Includes SupraBoot & SupraTools — two full disks of utility software
- Up to 30 Partitions
- All available file systems supported: FFS, MS-DOS, Unix, Macintosh, etc.
- Access to low-level parameters without maintaining MountList
- Excellent Technical Support
- Made in the U.S.A.

30MB (40 ms.)	**$649**
40MB (11 ms. Quantum)	**$799**
80MB (11 ms. Quantum)	**$1099**
40MB SyQuest Removable	**$1199**
WordSync Interface Kit	**$199.95**

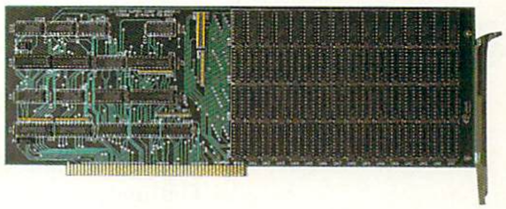
SupraModem™ 2400zi



- Half card modem fits in any Amiga bus slot
- Up to 5 modems per computer
- Works with all popular Amiga telecommunications software
- 100% compatible with the industry-standard "**AT**" command set
- Asynchronous 2400/1200/300 baud operation
- Compatible with Bell 103/212A and CCITT V.21/V.22/V.22bis
- Autoanswer/Autodial (tone or pulse)
- Adjustable-volume speaker
- Nonvolatile memory stores custom modem configuration and one telephone number
- Includes free subscriptions to popular on-line services
- Made in the U.S.A.

2400zi	**$179.95**

SupraRam™ 2000



- 2, 4, 6, & 8MB configurations available
- Installs easily into any Amiga internal expansion slot
- Easy to expand from your initial configuration — Start with 2MB & add RAM at your convenience
- 6MB configuration allows for maximum benefit with the Amiga Bridgeboard
- Lets you run larger and more sophisticated programs
- Allows creation of large and extremely fast RAM disks
- Test mode & test software make troubleshooting easy
- Made in the U.S.A.

8MB RAM Board 0MB	**$199**
with **2MB** Installed	**$449**
with **4MB** Installed	**$649**
with **6MB** Installed	**$849**
with **8MB** Installed	**$1049**

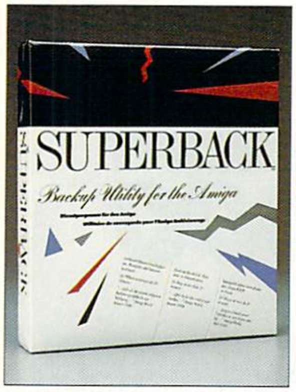
AVAILABLE AT YOUR LOCAL DEALER, OR CALL:

Supra Corporation
1133 Commercial Way Albany, OR 97321
Voice: 503-967-9075 Fax: 503-926-9370

ORDERS: 1-800-727-8772

SupraDrive, WordSync, SupraModem 2400zi, and SupraRAM 2000 are trademarks of Supra Corporation. Amiga is a registered trademark of Commodore-Amiga, Inc.

Circle 88 on Reader Service card.



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
LaserUp! PlotAegis	S. Anthony Studios	$ 49.95		Draw files to PostScript.
LuCipher I	MegageM	$ 49.95		Rotor-simulation file encryption system.
LuCypher II	MegageM	$199.95		RSA Public Key Cipher system.
MAC-2-DOS	Central Coast	$ 99.95		Transfers Macintosh files.
Magdex	Selectronics	$ 10.00		Memory based index of Amiga magazines.
Magellan	Emerald Intelligence	$195.00	1MB	AI/Expert System development tool.
MagiCode	Magic Circle	$ 30.00		Encrypts computer data.
Mastering CLI & Shell	Graphic Expressions	$ 39.95		Interactive DOS tutorial that covers 1.3.
Math-Amation	Taurus-Impex	$ 79.95		Quantity processor.
Mitsubishi-Shinko	ACDA	$130.00		Thermal color-printer driver.
Mono X11	GfxBase	TBA	1MB	Runtime utility.
Multi-Prefs	Soft-Link	$ 29.95		Time-saving utilities.
Multi-User Software	Conceptual Comp.	$120.00		Serve multiple terminals.
MultiBase	Conceptual Comp.	$249.00		Access data files from several terminals.
Newsletter Fonts Vol 1	Inter/Active Softworks	$ 30.00		120 Amiga fonts.
Outline!	PAR Software	$ 79.95		Idea and list processor.
Palette Printer	Ontological Survey	$ 29.95		Color match system.
PED	MicroDimensions	$129.95		Programmer's text editor.
PixelScript	Pixelations	$149.00		PostScript interpreter.
PlotPrint V.1	Hi-Tech Graphics	$ 50.00	1MB	Utilize full printer resolution.
PlotPrint V.2	Hi-Tech Graphics	$100.00	1.5MB	For 68020/68881.
Print 1.2	LaserUp!	$ 89.95		Color separation.
Printer Drivers	Micro Programs	$100.00		Various drivers; specify.
Printer Drivers	Tychon Technologies	$ 39.95		Each sold separately; specify.
Project D	Fuller Computer	$ 49.95		Multi-format disk backup utility.
Pubdex	Selectronics	$ 10.00		Memory resident index of PD programs.
Quarterback	Central Coast	$ 69.95		Hard disk to floppy backup.
RawCopy	Micro Systems	$ 59.95		Backup utility.
RESEP	ASDG	$ 59.95		Conversion utility.
Saf-T-net	Metadigm	$ 49.95		Hard disk backup utility.
Shell	Metacomco	$ 69.95		Unix-like AmigaDOS interface.
Snip	Digital Dynamics	$800.00		Digital signal processing.
Software Enhancer	Commodore	$ 29.95		DOS 1.3 upgrade kit.
Software From Hell	Conceptually Adv.	$ 69.95		Routines and utilities for programmers.
STU	Custom Services	$ 29.95		Diagnostic memory test utility.
Studio Fonts Vol 1	Inter/Active Softworks	$ 35.00		Colorfonts and standard fonts.
Superback	The Disk Company	$ 79.95		Disk-copying utility.
Supterback	Disc Company	$ 79.95		Disk copying utility.
System Monitor	Zen Software	$ 49.95		Monitors memory usage.
The Reaper	Conceptually Adv.	$ 39.95		Backup utility.
TSS Net	Syndesis	$250.00		Digital Network Architecture.
TxEd Plus	Microsmiths	$ 79.95		ARexx-compatible text editor.
UltraDOS Utilities	Free Spirit	$ 59.95		Hard-drive backup utility.
Virus Infection Protect.	Discovery Software	$ 49.95		Virus vaccination for disks.
Virus Protection Toolbox	Abacus	$ 59.95		Data security system.
VoRecOne	Impulse	$159.95		Voice recognition package.
VTI 100 Emulator	Tychon Tech.	$ 69.95		Emulates DEC terminal.
WordPerfect Library	WordPerfect Corp.	$129.00		Desktop accessories and productivity tools.
X-Shell	GrafX Computing	$199.00		Replacement user interface for X-Cad Pro.
Xerox 4020 Printer Driver	Glass Canvas Prod.	$ 24.95		For Xerox 4020 color Ink Jet printer.

WORD PROCESSING

PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
BeckerText	Abacus	$150.00		Columns, dictionary, calculations.
Cyrillic Alphabets	Classic Concepts	$ 34.95		Ten Russian/Cyrillic fonts.



Circle 232 on Reader Service card



PRODUCT	COMPANY	PRICE	MEM	DESCRIPTION
Eartype	Jumpdisk	**$ 3.00**		Word processor for the seeing-impaired.
excellence!	Micro-Systems	**$299.95**	1MB	WYSIWYG word processor.
Fleet Check	Professional Software	**$ 39.95**		Dictionary, thesaurus, spell checking.
FormAtion	Iconoclassic	**$ 69.95**	1MB	Forms design package.
KindWords	The Disc Company	**$ 99.95**		WYSIWYG, imports graphics.
KindWords 2.0	The Disc Company	**$ 99.95**		Word processor.
LPD Writer	Digital Solutions	**$ 59.95**		Mail merge, spelling checker.
Microtext	Ariadne	**TBA**		Word processor.
Pen Pal	Softwood Company	**$149.95**	1MB	Word processor with database.
Promise	The Other Guys	**$ 49.95**		Spelling checker.
ProScript	New Horizons	**$ 49.95**		Translates ProWrite files into PostScript.
ProWrite 3.0	New Horizons	**$124.95**		Multiple fonts, colors, imports graphics.
Reason	The Other Guys	**$395.00**		Proofreading and style analysis.
Scribble! Platinum	Micro-Systems	**$149.95**		Spelling checker, thesaurus, graphics.
T R Writer	T R Software	**$ 39.95**		Word processing and electronic typewriting.
TEX	Micro Programs	**$200.00**		Produces typeset documents.
Textcraft Plus	Commodore	**$ 99.95**		Mouse driven, mail merge.
TextPro	Abacus	**$ 79.95**		Word processor with graphics.
Thinker	Poor Person Software	**$ 80.00**		Word processor with database.
Transcript	Gold Disk	**$ 69.95**		WP with built-in spell-checker.
VizaWrite	Progressive	**$149.95**		Imports graphics, multiple columns.
WordPerfect	WordPerfect Corp.	**$395.00**		Spelling checker, thesaurus, macros.

Buyer's Guide Company List

A-Squared Distributions
6114 La Salle Ave.
Oakland, CA 94611
415/339-0339

A.M.S.
13552 Portsmouth Cr.
Westminster, CA 92683
714/893-0762

Abacus
5370 52nd St. SE
Grand Rapids, MI 49508
616/698-0330

Absoft
2781 Bond St.
Rochester Hills, MI 48309
313/853-0050

Academy Software
PO Box 6277
San Rafael, CA 94903
415/499-0850

Access Technologies
PO Box 202197
Austin, TX 78720
512/343-9564

Accolade
550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
408/296-8400

ACDA Corp.
220 Belle Meade Ave.
Setauket, NY 11733
516/689-7722

Active Circuits
106 Highway 71
Suite 101
Mamasquan, NJ 08736
201/223-5999

Activision Presentation Tools
3885 Bohannon Dr.
Menlo Park, CA 94025
415/329-0800

Aegis Development
2115 Pico Blvd.
Santa Monica, CA 90405
213/392-9972

Aesthetic Engineering
175 Duane St.
New York City, NY 10013
212/925-7049

AlohaFonts
PO Box 2661
Fair Oaks, CA 95628

American Software Distributors
RR 1 Box 290, Bldg. 3
Urbana, IL 61801
217/643-2050

Antic Publishing
544 Second St.
San Francisco, CA 94107
415/957-0886

Ariadne Software Ltd.
273 Kensel Rd.
London, England W105DB
01 960 0203

ARock Computer Software
1306 E. Sunshine
Springfield, MO 65804

ASDG
925 Stewart St.
Madison, WI 53713
608/273-6585

Avant-Garde
2213 Woodburn
Plano, TX, 75075
214/964-0260

Avocet Systems Inc.
120 Union St.
Rockport, ME 04856
800/448-8500

AZ/Tech
PO Box 3615
Flagstaff, AZ 86003
602/527-0187

B.E.S.T. Inc.
11525 SW Durham Rd.
Bldg. D
Tigard, OR 97224
503/684-6655 ►


ARCADE
SEGA™
HITS
Storm the Skies!
Thunder Blade™
PILOT THE MEANEST FLYING MACHINE ON YOUR HOME COMPUTER!
Enjoy a whole new action-perspective on your PC from *the* arcade Hit of 1988! You'll reach for a safety belt, your hands will sweat as incredible 3-D realism hits you.
Top-down perspective gives you a bird's eye view that sees all around, while first-person perspective gives you the chance to maneuver between buildings, duck in and out of arches and fire at hidden enemy targets.
Make no mistake. This is 100% action. Strap yourself onto the ultimate flying machine and have at it!
SEGA
Thunder Blade
MINDSCAPE INC
DISTRIBUTED BY
MINDSCAPE
Visit your retailer or call 1-800-221-9884 for VISA and MASTERCARD orders. To purchase by mail, send your card number and expiration date, check or money order for $34.95 (C64 & C128), $39.95 (IBM), and $49.95 (Amiga and Atari ST), plus $3.00 handling to Mindscape, Inc., P.O. Box 1167, Northbrook, IL 60065. Allow 3-5 weeks for delivery. Coming soon for the IBM and Compatibles. ©Copyright 1989 Mindscape, Inc. Mindscape is a trademark of Mindscape, Inc. Copyright ©1989 Sega Enterprises, Ltd. This game has been manufactured under license from Sega Enterprises, Ltd., Japan. Thunder Blade is a trademark of Sega Enterprises, Ltd. Commodore 64 and Commodore 128 are registered trademarks of Commodore Electronics, Ltd. Atari is a registered trademark, and ST, 520ST, and 1040ST are trademarks of Atari Corporation. Amiga is a registered trademark of Commodore-Amiga, Inc. IBM is a registered trademark of IBM Corporation. Actual screen shots of Commodore Amiga version; others may vary. Made in U.S.A.

Buyer's Guide Company List

Banana Software Inc.
Dept. SA
6531 Park Ave.
Kent, OH 44240
216/673-6969

Bassett Geographic
1103 Rudd Ave.
Auburn, AL 36830
205/887-9057

Baudville
5380 52nd St. SE
Grand Rapid, MI 49508
616/698-0888

Benaiah Computer Products Inc.
PO Box 14502
Huntsville, AL 35815
205/881-1110

Blank Software
1477 Folsom St.
San Francisco, CA 94103
415/863-9224

Blue Ribbon Bakery
1248 Clairmont Rd.
Suite 3D
Atlanta, GA 30030
404/377-1514

Brittanica Software
345 First St.
San Francisco, CA 94107
415/546-1866

Brown-Wagh Publishing
16795 Lark Ave.
Suite 210
Los Gatos, CA 95030
408/395-3838

Bullfrog Productions
dist. by Electronic Arts

Byte By Byte
Arboretum Plaza II
9442 Capitol of Tex. Hwy. N
Austin, TX 78759
512/343-4357

Bytes and Bulletts
Rt. 3 Box 3532
Manchester, TN 37355

Cadvision International
distributed by Brown Wagh

Capilano Computer Systems
1168 Hamilton St.
Suite 501
Vancouver, British Columbia
Canada V6B 2S2
604/669-6343

Celestial Data Systems Inc.
279 South Beverly Dr.
Suite 1010
Beverly Hills, CA 90212
213/838-3686

Centaur Software
4452 Redondo Beach Blvd.
Lawndale, CA 90260
213/542-2226

Charles Voner Designs
61 Clewley Rd.
Medford, MA 02155
617/396-8354

Classic Concepts
PO Box 786
Bellingham, WA 98227
206/733-8342

Classic Future
3100 W. Chapel
Cherry Hill, NJ 08002
609/667-7695

ClassicCompu
3100 W. Chapel Ave.
Cherry Hill, NJ 08002
609/667-7695

Commodore Business Machines
1200 Wilson Dr.
West Chester, PA 19380
215/436-4200

Compplications
1727 Parkview
Redlands, CA 92374
714/794-5311

Computer Arts
PO Box 529
Opp, AL 36467
205/493-6312

Computerware
4403 Machester Ave.
Suite 102
Encinitas, CA 92024
619/436-3512

Conceptual Computing
603 Castlefield Ave.
Toronto, Ontario
Canada M5N 1L9
416/781-7742

Conceptually Advanced Technologies
PO Box 3302
Santa Monica, CA 90403
213/452-1732

Consultron
11280 Parkview
Plymouth, MI 48170
313/459-7271

Crystal Rose Software
109 S. Los Robles Ave.
Pasadena, CA 91101
818/795-6664

CSS Inc.
PO Box 305
Wallowa, OR 97885
503/886-9075
800/826-1799

Custom Services
PO Box 254
Moorestown, NJ 08057

CygnusSoft
distributed by ASDG

Data Research Processing Inc.
5121 Audrey Dr.
Huntington Beach, CA 92649
714/840-7186

Datel Computers
3430 E. Tropicana Ave.
Las Vegas, NV 89121
702/454-7700

Delphi Noetic Systems Inc.
PO Box 772
Rapid City, SD 57709
605/348-0791

Delta Research
PO Box 1051
San Rafael, CA 94915
415/461-1442

Designlab
PO Box 419
Owego, NY 13827
607/687-5740

Diemer Development
distributed by Centaur

Digiscape Software
PO Box 113058
Carrollton, TX 75011
214/241-9891

DigiSoft
12 Dinmore St. Moorooka
Brisbane, Queensland
Australia 4105
61-7-277-3255

Digital Creations
2865 Sunrise Blvd.
Suite 103
Rancho Cordova, CA 95742
916/344-4825

Digital Dynamics
739 Navy St.
Santa Monica, CA 90405
213/396-9771

Digital Solutions
PO Box 345, Stn. A
Willowdale, Ontario
Canada L4B 1B9
416/731-8775

DigiTek Inc.
8910 N. Dale Mabry
Suite 37
Tampa, FL 33614
813/933-8023

Digitools
PO Box 7417
Buffalo Grove, IL 60089
312/459-8781 ►


ACTION!
DARK CENTURY
YOU CONTROL THE GREATEST HIGH-TECH TANKS IN THE WORLD. YOU ARE ON A PRISON PLANET TRYING TO ARREST SOME ESCAPED CONVICTS. PROGRAM AND LEAD YOUR TEAM OF TANKS TO TRICK YOUR OPPONENT! RAY TRACED 3D UNIVERSE, MULTITASKING, ONE OR TWO PLAYERS ARE THE FEATURES OF THIS GAME.
KNIGHT FORCE
YOU ARE THE SWORD MASTER, DEFENDER OF BELLOTH REALM. QUEST THROUGH FIFTEEN LEVELS AND FIVE ERAS OF MAGIC GRAPHICS. LEAD YOUR ENCHANTED POWERFUL WEAPONS AND SPOIL THE MALEVOLENT TRAPS, TO LIBERATE THE PRINCESS TANYA FROM THE CLAWS OF RED SABAT THE SORCERER.
WILD STREETS
A SUPERCOP AND A BLACK PANTHER TEAM TOGETHER IN A HIGH RISK MISSION. "A TOP CIA AGENT HAS BEEN KIDNAPPED, FIND HIM! YOU KNOW THAT ACTION AND FIGHTING IS INEVITABLE". YOU'LL HAVE TO VISIT THE CITY SLUMS TO FIND HIM AND PROTECT YOU BOTH FROM MOBSTERS, PUNKS AND OTHER RIFF RAFFS.
F40 PURSUIT
AT THE WHEEL OF YOUR FABULOUS FERRARI F40, YOU'RE RACING AGAINST TIME AT 200 MILES PER HOUR. PLAN YOUR ROUTE, BUT BEWARE OF POLICE THAT WILL TRY TO STOP YOU IN YOUR MISSION. 360 DEGREE SPINS, AND REALISTIC 3D ROAD JUNCTIONS WILL MAKE YOU SENSE THE THRILL OF SPEED. DON'T JUST TAKE OUR WORD, BURN SOME RUBBER.
Slick up your joystick it's hot!
OFF SHORE WARRIOR
YOU ARE AN OFF SHORE WARRIOR AND YOUR FIRST ARENA, FULL OF FANS, IS WAITING FOR YOU. STRUGGLE AGAINST ROCKS, WAVES AND OPPONENTS IN A DEADLY GAME. ONLY FEW CAN LEAVE ALIVE. DO IT OR DIE!!!
FIRE AND FORGET
FACE THREE LEVELS OF SIX CONFLICTS, FROM SPORADIC WARFARE TO TOTAL WAR. NEVER LOOK BACK! IT COULD BE YOUR LAST MISSION. ONE OR TWO WARRIORS CAN TEAM UP.
CRAZY CARS
YOU ARE RACING FOUR OF THE MOST PRESTIGIOUS CARS IN THE WORLD'S CRAZIEST RACE THROUGHOUT THE UNITED STATES. PREPARE TO START, READY? GO!!!
TITAN
MAKE YOUR WAY THROUGH THIS STRATEGIC PUZZLE OF EIGHTY WORLDS WITH YOUR MAGNETIC CONTROL UNIT. BUT BE CAREFULL, THE ULTRA-FAST SCROLLING HAS ALREADY CAUSED SOME MENTAL BREAKDOWNS.
TITUS™
20432 CORISCO STREET,
CHATSWORTH CA 91311
818-709-3693
Circle 17 on Reader Service card.
© TITUS 1989. TITUS AND THE TITUS LOGO ARE REGISTERED TRADEMARKS OF TITUS SOFTWARE CORP.

Buyer's Guide Company List

Discovery Software
163 Conduit St.
Annapolis, MD 21401
301/268-9877

dissidents
730 Dawes Ave.
Utica, NY 13502
315/797-0343

Don Keiffer
PO Box 316
Bellflower, CA 90706

Dr. T's Music Software
220 Boylston St.
Suite 206
Chestnut Hill, MA 02167
617/244-6954

DTM Werbug & EDV Gmbh
distributed by Mindware International

E. Arthur Brown
3404 Pawnee Dr.
Alexandria, MN 56308
612/762-8847

E.C.T. Sampleware
PO Box 36
Sierra Madre, CA 91024

Eagle Tree Software
PO Box 164
Hopewell, VA 23860
804/452-0623

EaseWare
11160 F. Southlakes Dr.
Suite 305
Reston, VA 22090
703/709-9686

Eastern Telecom Inc.
9514 Brimton Dr.
Orlando, FL 32817

Easy Script
10006 Covington Dr.
Huntsville, AL 35803
205/881-6297

Elan Design Inc.
PO Box 31725
San Francisco, CA 94131
415/359-7212

Electronic Arts
1820 Gateway Dr.
San Mateo, CA 94404
415/571-7171

Elipsys
PO Box 16757
Seattle, WA 98116
703/490-8157

Emerald Intelligence
3915-Al Research Park Dr.
Ann Arbor, MI 48108
313/633-8757

Express-Way Software
PO Box 10290
Columbia, MO 65205
314/474-2984

EZ Soft
21125 Chatsworth St.
Chatsworth, CA 91311
818/341-8681

FBN Software
2 Solander Court
Yarralumla ACT 2600
Australia 062-852

First Byte
distributed by Electronic Arts

First Byte
3333 E. Spring St. #302
Long Beach, CA 90808
213/595-7009

Free Spirit Software Inc.
PO Box 128
58 Noble St.
Kutz, PA 19530
215/683-5609

Frog Peak Music
PO Box 9911
Oakland, CA 94613
415/461-1442

Fuller Computer Systems Inc.
PO Box 9222
Mesa, AZ 85214
602/835-5018

GENP
37 Charles St.
Celtenhan, Victoria
Australia 3192
61 3 584 2765

George Bailey
6474 Highway 11
DeLeon Springs, FL 32028

GfxBase
1881 Ellwell Dr.
Millpita, CA 95035
408/262-1469

Gimpel Software
3207 Hogarth Ln.
Collegeville, PA 19426
215/584-4261

Glacier Technologies
PO Box 1309
Vancouver, WA 98666
206/694-1539

Glass Canvas Productions
PO Box 6171
Boston, MA 02114
617/367-3229

Gold Disk
PO Box 789 Streetsville
Mississauga, Ontario
Canada L5M 2C2
800/387-8192
416/828-0913

Grafx Computing
6680 Wiltsie Rd.
Panama, NY 14767
716/782-2468

Gramma Software
17730 15th Ave. N.E.
Suite 223
Seattle, WA 98155
206/363-6417

Graphic Expressions
PO Box 110028
Nutley, NJ 07110
201/661-0408

Haitex Resources
PO Box 20609
Charleston, SC 29413
214/241-8030

Hash Enterprises
2800 E. Evergreen
Vancouver, WA 98661
206/693-7443

HC Software
GPO Box 2204
Adelaide
South Australia
5001
08/344-6897

Hilton Android Corp.
PO Box 7437
Huntington Beach, CA 92615
714/963-4584

Hi Resolution
Yorktown Bldg. #308
5840 E. River Rd.
Minneapolis, MN 55432
612/572-0650

HiSoft
distributed by Manx Software Systems

Hitension Computer Services
US: M.A.S.T.
Aldershot
England 0252 344454

Hugh's Software Ranch
323 E. 8th St.
New York, NY 10009
212/353-2465

Iconoclassic
PO Box 31323
Richmond, VA 23294
804/273-0312 ►

Buyer's Guide Company List

Impulse Inc.
6870 Shingle Creek Pkwy #12
Minneapolis, MN 55430
612/566-0221
800/328-0184

IMSI
1299 Fourth St.
San Rafael, CA 94901
415/454-9678

Incognito Software
34518 Warren
Suite 149
Westland, MI 48185
313/937-1850

InnoVision Technology
1933 Davis St.
Suite 238
San Leandro, CA 94577
415/638-8432

INOVAtronics Inc.
8499 Greenville Ave.
Suite 209B
Dallas, TX 75231
214/340-4991

Intelligent Music
116 N. Lake Ave.
Albany, NY 12206
518/434-4110
800/344-2086

Interactive MicroSystems
PO Box 1446
Haverhill, MA 01831
508/372-0400

InterActive Softworks Inc.
2521 South Vista Way
Suite 254
Carlsbad, CA 92008
619/434-5327

Interface Technologies Inc.
3336 Richmond
Suite 323
Houston, TX 77098
713/523-8422
800/922-9049

Intracorp Inc.
14160 SW 139th Court
Miami, FL 33186
800/468-7226

Intuitive Technologies
distributed by American Software

ISD Marketing
2651 Johns St. Unit 3
Markham, Ontario
Canada
416/479-1990

ISM Inc.
PO Box 247
Phoenix, MD 21131
301/666-2672

Jenday Software
PO Box 4313
Garden Grove, CA 92642
714/636-3378

JMH Software
7200 Hemlock Ln.
Maple Grove, MN 55369
612/424-5464

Joyce I. Peck
Box 1051 Qualicum Beach
British Columbia
Canada VOR
604/752-3364

Jumpdisk
1493 Mountain View Ave.
Chico, CA 95926
916/343-7658

Kara Computer Graphics
6365 Green Valley Circle No. 317
Culver City, CA 90230
213/670-0493

KarmaSoft
distributed by American Software

KFS Software Inc.
PO Box 107
Largo, FL 34649
813/584-2355

Kuma Computers Ltd.
12 Horseshoe Park
Pangbourne, Berkshire
England RG8 7JW
07 357 4335

Lake Forest Logic Inc.
28101 Ballard Rd., Unit E
Lake Forest, IL 60045
312/816-6666

Lattice
2500 S Highland Ave.
Suite 300
Lombard, IL 60148
312/916-1600
800/444-4309

Learners Image
PO Box 3669
Logan, UT 84321
801/752-5608
800/255-8791

Lee Software
PO Box 742644
Dallas, TX 75374
214/530-2864

Lionheart Publishing
PO Box 379
Alburg, VT 05440
514/933-4918

LogiComp Software
4010 Woods Blvd.
Lincoln, NE 68502
402/423-6768

Lucy Scale Developments
PO Box 5146
Laguna Beach, CA 92652

M2S Inc.
PO Box 550279
Dallas, TX 75355
214/340-5256

M.A.S.T.
1395 Greg St. #106
Sparks, NV 89431
702/359-0444

Mad Scientist Software
13422 N. Bayberry Cr.
Alpine, UT 84004
801/756-6027

Madrigal Residential Designs
PO Box 2292
Santa Rosa, CA 95405
707/539-5675

Magic Circle
10 Radford Pl.
Hyde Park, MA 02136

Magnetic Images Company
PO Box 17422
Phoenix, AZ 85011
602/265-7849

Manx Software Systems
160 Ave. of Commons
Shrewsbury, NJ 07702
800/221-0440

McCauley Software Systems
PO Box 271031
Houston, TX 77277
713/630-0647

MegageM
Box 1785
Santa Monica, CA 93445
805/349-1104

Meggido Enterprises
PO Box 3020-191
Riverside, CA 92519
714/683-5666

Merit Software
13635 Gamma Rd.
Dallas, TX 75244
214/385-2353

Metacomco
26 Portland Sq.
Bristol, England BS2 8RZ
011-44 272 428 781

Metadigm Inc.
19762 MacArthur Blvd.
Suite 300
Irvine, CA 92715
714/955-2555 ►

Buyer's Guide Company List

Metran Technology
PO Box 82538
Tampa, FL 33682

MichTron
576 S. Telegraph
Pontiac, MI 48053
313/334-5700

Micro Dimensions Inc.
455 N University Ave.
Provo, UT 84601
801/377-0933

Micro Ed Inc.
PO Box 24750
Edina, MN 55424
612/929-2242

Micro Magic
dist. by Centaur Software

Micro Momentum Inc.
100 Brown Ave.
Johnston, RI 02919
401/949-5310

Micro Programs Inc.
251 Jackson Ave.
Syossett, NY 11791
516/921-1351

Micro Systems Int.
1143 Monroe St.
Carleton, MI 48117
313/654-8402

Micro W Distributors Inc.
PO Box 1342B Route 23
Butler, NJ 07405
201/838-5606

Microdeal
distributed by MichTron

Microft Software
PO Box 1072
Exton, PA 19341
215/363-2832

MicroIllusions
17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041

MicroMaster Inc.
1085A Broadhead Rd.
Aliauippa, PA 15001
412/775-3000

MicroMomentum
100 Brown Ave.
Johnston, RI 02919
401/949-5310

MicroSearch Inc.
9896 SW Freeways
Houston, TX 77074
713/988-2818

MicroSmiths Inc.
PO Box 561
Cambridge, MA 02140
617/354-1224

MIDImouse Music
Box 877
Welches, OR 97067
503/622-4034

MIDITALK
PO Box 69
Albany, NY 12260
518/674-8466

Mindscape
3444 Dundee Rd.
Northbrook, IL 60062
312/480-7667
800/221-9884

Mindware International
33 Alliance Blvd. Unit 1
Barrie, Ontario
Canada L4M 5R3

Mirage Studio
5 Gipsy Lane
Wokingham
Berkshire, England
RG11 2B
0734-788965

Musicsoft
30 N. Raymond Ave.
Suite 505
Pasadena, CA 91103
818/449-8838

MV Micro
PO Box 1112
Wheatridge, CO 80034-1

New Horizons Software
PO Box 43167
Austin, TX 78745
512/328-6650

New Wave Software
PO Box 438
St. Clair Shores, MI 48080
313/771-4465

NewTek
115 West Crane St.
Topeka, KS 66603
913/354-1146
800/843-8934

Norris Software Ltd.
3208 W. Lake St.
Suite 65
Minneapolis, MN 55416
612/827-2766

Northeast Software
distributed by Brown-Wagh

Nova Research
distributed by A-Squared

Octree Software
311 West 43rd St.
Suite 904
New York, NY 10036
212/262-3116

Opcode Systems
1024 Hamilton Court
Menlo Park, CA 94025
415/321-8977

OTG Software
200 West 7th St.
Suite 618
Fort Worth, TX 76102
312/816-3474

Oxxi Inc.
PO Box 90309
Long Beach, CA 90809
213/427-1227

PAR Software
distributed by Brown Wagh

Paragon Software
111 Thornwood Dr.
Marlton, NJ 08053
609/596-8991

Passport Designs
625 Miramontes St.
Half Moon Bay, CA 94019
415/726-0280

Peacock Systems Inc.
South Tysons Office Park
2108-C Gallow
Vienna, VA 22180
703/847-1743

Pecan Software Systems
1410 39th St.
Brooklyn, NY 11218
718/851-3100
800/63-PECAN

Perpetual Designs
1134 N. Cambrian
Suite 4
Bremerton, WA 98317
206/373-6000

Peterson Enterprises
PO Box 614
Milford, NH 03055
603/673-4009

Pixelations Inc.
PO Box 547
Northboro, MA 01532
508/393-7866

Poco Loco
25 S. Broadway
Ridge, NY
914/757-4261

Polar Arts
14145 Janna Way
Sylmar, CA 91342
818/362-8565 ►



Make Amigos With Other Amigas.

The largest group of Amiga® users in the world shares its problems and solutions online every day in CompuServe's Amiga Forums. And you can join them.

Whether you're an Amiga novice or a professional user in broadcasting, film special effects, animation, or music production, you'll find support from thousands of Amiga users and nearly every third-party Amiga software and hardware vendor.

Looking for a solid CAD program? Want to make the most of your Amiga's multitasking capabilities? Ask somebody who's been through it all. There's no better way to get more out of your Amiga.

To join CompuServe, see your computer dealer. To order direct or for more information, call 800 848-8199. If you're already a member, type GO AMIGA at any ! prompt.

CompuServe®

Circle 53 on Reader Service card.

Buyer's Guide Company List

Polyglot Software
10431 Ardyce Ct.
Boise, ID 83704
208/375-3741

Poor Person Software
3721 Starr King Cr. Dept. 4
Palo Alto, CA 94306
415/493-7234

Precision Approach
207 E. 3rd St.
Prophetstown, IL 61277
815/537-2211

Precision Inc.
distributed by American Software

Pregnant Badger Music
10010 Biscanewoods Way
Sacramento, CA 95827
916/361-8217

Professional Software Inc.
51 Fremont St.
Needham, MA 02194
617/444-5224

Progressive Peripherals & Software
464 Kalamath St.
Denver, CO 80204
303/825-4144

Prolific Inc.
1808 W. Southgate Ave.
Fullerton, CA 92633
714/447-8792

Publishing International
333 W. El Camino Real
Suite 222
Sunnyvale, CA 94087
408/738-4311

Puzzle Factory
PO Box 986
Veneta, OR 97487
503/935-3709

Quelo
PO Box 490
Rockport, MA 04856
206/285-2528

Queue Software
562 Boston Ave.
Bridgeport, CT 06610
203/335-0908
800/232-2224

Radical Eye Software
distributed by Micro Programs

Rainbows Edge Production
4412 4th Ave.
Suite 2
Brooklyn, NY 11220
718/439-0299

ReadySoft
30 Wertheim Court Unit 2
Richmond Hill
Ontario, Canada L4B 1B9

Revolution Software
PO Box 38
West Chester, PA 19831
215/430-0412

RGB Video Creations
3944 Florida Blvd.
Suite 102
Palm Beach Gardens, FL 33410
407/622-0138

Right Answers Group
Box 3699
Torrance, CA 90510
213/325-1311

Robert Shannon
741 East #305
Woodland, CA 95695
916/622-9591

Robin Hoare Computers
PO Box 67
Rawene, Hokianga
New Zealand
64 887 57761

RockLogic
PO Box 22
Slippery Rock, PA 16057

Royal Software
PO Box 8900-156
Salem, OR 91303

RSN Software Inc. (Metadigm Inc.)
889 De Haro St.
San Francisco, CA 94107
415/826-6193

Saxon Industries
14 Rochress Gardens
Nepean, Ontario
Canada K26 5A8
613/226-2355

Scientific Software
PO Box 202
Rexford, NY 12148

Sedona Software
11844 Rancho Bernardo Rd.
Suite 20
San Diego, CA 82128
619/451-0151

Selectronics Inc.
5147 S. 37th St.
Lincoln, NE 68516

Seven Seas Software
PO Box 1451
Port Townsend, WA 98368
206/385-1956

Shereff Systems
15075 SW Koll Parkway
Suite G
Beaverton, OR 97006
503/626-2022

Signs Etc. By D. Knox
PO Box 628
Carmichael, CA 95609
916/944-0790
800/634-2952

Silver Software
77 Mead St.
Bridgeport, CT 06610
203/366-7775

Slipped Disk
31044 John Rd.
Madison Heights, MI 48071
313/583-9803

Soft-Byte
PO Box 556 Forest Park
Dayton, OH 45405
513/278-1110

Soft-Link
PO Box 304
Coventry, RI 02816

Soft-Logik Publishing Corp.
11131 South Towne Sq.
Suite F
St. Louis, MO 63123
314/894-8608

Software Advantage Consulting Corp.
37346 Charter Oaks Blvd.
Mt. Clemens, MI 48043
313/463-4995

Sofware Ingenuity
11325 94th St. N.
PO Box 10084
Largo, FL 34643
813/393-8240

Software Integration Solutions
11027 Twin Pond Terrace
San Diego, CA 92128
619/748-3350

Software Sensations
1441 S. Robertson Blvd.
Los Angeles, CA 90035

Software Toolworks
19888 Nordhoff Place
Chatsworth, CA 91311
818/885-9000

Software Visions
PO Box 3319
Framingham, MA 01701
508/875-1238
800/527-7014 ►

THEY'RE BACK!



ON A COMPUTER NEAR YOU

	IBM	APPLE II	MAC	C64	AMIGA	ATARI ST
SCRABBLE®	$39.99	$39.99	$39.99	$29.99	$39.99	$39.99
MONOPOLY®	$39.99			$29.99	$39.99	$39.99
RISK™	$39.99	$39.99	$39.99	$29.99	$39.99	$39.99
CLUE® MASTER DETECTIVE™	$39.99	$39.99		$29.99	$39.99	$39.99

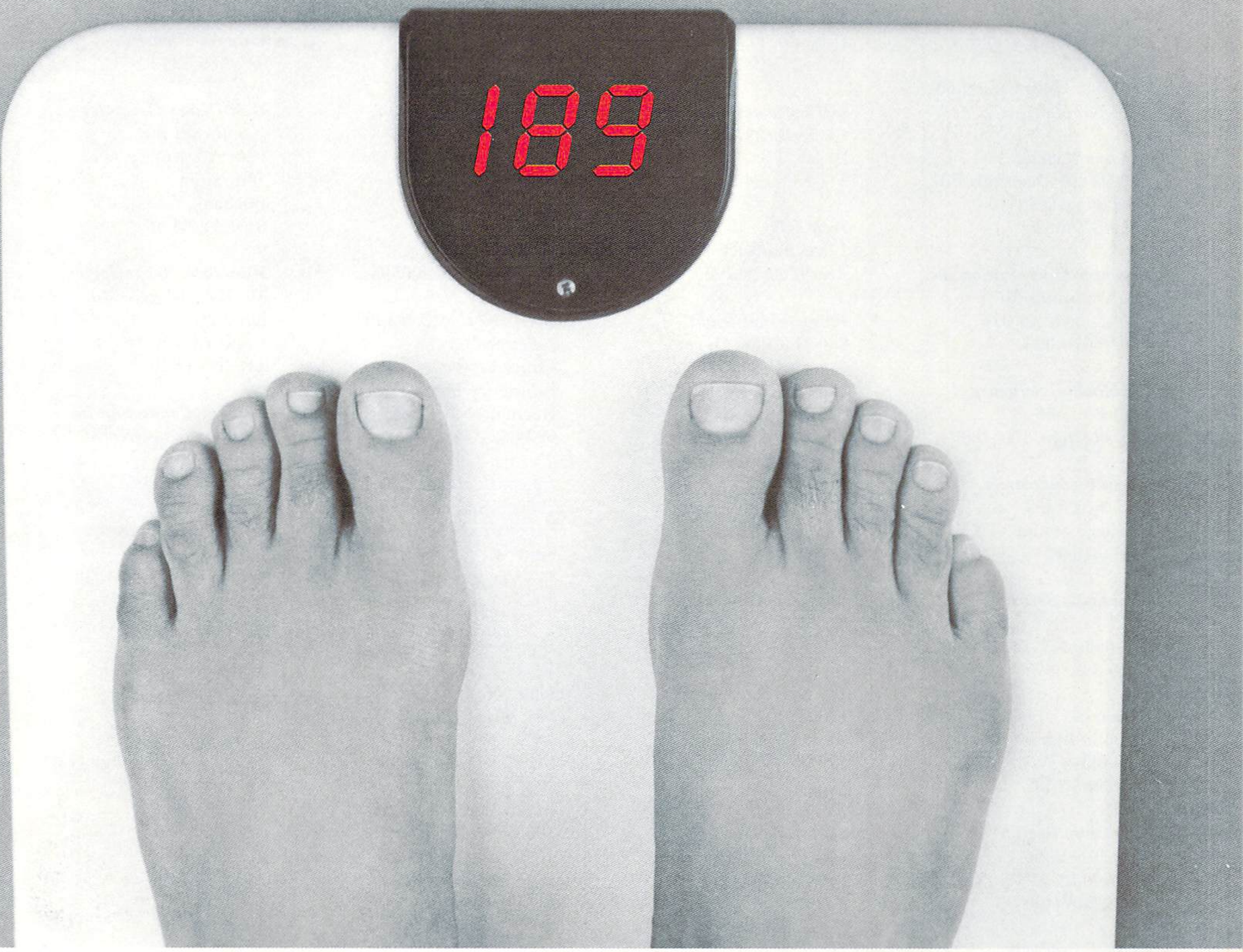
Virgin Leisure Genius

Distributed by:- VIRGIN MASTERTRONIC INTERNATIONAL Inc.
18001 Cowan, Irvine, California 92714 U.S.A.
Telephone (714) 631-1001 Telefax (714) 631-1004

Virgin MASTERTRONIC

Circle 104 on Reader Service card.

DOWNLOAD YOUR MAIN FRAME.



Total Control Diet taps the power of your computer to help you take off those unwanted pounds.

This personalized program enables you to lose weight quickly and sensibly, while maintaining balanced nutrition. Developed with the assistance of a professional dietician, Total Control Diet creates a calorie plan to help you reach your desired weight.

A data base of over 2,400 foods helps you make the best choices; additional foods can be added, including favorite recipes. Your caloric, fat, cholesterol, vitamin and mineral intakes are automatically computed to establish a day-to-day history. The program even adjusts your metabolic rate.

Total Control Diet is ideal for individuals or groups. List price: $99.

System requirements: Amiga computer with 512K available RAM. Pronu, the professional diet and nutritional program, is also available. See your Amiga dealer or contact Lee Software for more information.

Get on-line with Total Control Diet. And tip the scales in your favor.

TOTAL CONTROL DIET

LEE SOFTWARE™

Lee Software P.O. Box 742644 Dallas, Texas 75374-2644 1-800-22-S-WARE 214-530-LEES

Circle 171 on Reader Service card.

Buyer's Guide Company List

Sound Quest Inc.
5 Glenaden Ave. East
Toronto, Ontario
Canada M8Y 2L2
416/234-0347

Sparta Inc.
23041 de la Carlotta
Suite 400
Laguna Hills, CA 92653
714/583-2394

Speech Systems
38 W 255 Deerpath Rd.
Batavia, IL 60510
312/879-6880

Spencer Organization Inc.
24 Wampum Rd.
Westwood, NJ 07675
201/307-9099

Subliminal Software
PO Box 343
Champaign, IL 61820

SunRize Industries
PO Box 1453
College Station, TX 77841
409/846-1311

SunSmile Software
533 Fargo Ave.
Buffalo, NY 14213
716/885-5670

Syndesis
N9353 Benson Rd.
Brooklyn, WI 53521
608/455-1422

Synthetic Reality
PO Box 6066
St. Cloud, MN 56302
612/259-9499

T & L Products
2645 Wilson St.
Carlsbad, CA 92008
619/729-4020

Tangent 270
PO Box 38587
Denver, CO 80238
303/322-1262

Taurus-Impex
3331 Bartlett Blvd.
Orlando, FL 32811
407/423-1987

TDI Software
10355 Brockwood Rd.
Dallas, TX 75238
214/340-4942

Tech Soft
17846 Renwick Rd.
Azusa, CA 91702

Tensor Productions
280 Mathilda Dr. #9
Goleta, CA 93117
805/562-7480

The Disc Company
3135 South State St.
Ann Arbor, MI 48108
313/665-5540

The Other Guys
PO Box H
Logan, UT 84321
801/753-7620
800/942-9402

The Sterling Connection
Box 4850
Berkeley, CA 94704
415/655-2355

The Trumor Company
2745 201st Ave. NW
Oak Grove, MN 55011
612/753-5050

ToolCaddy Works
PO Box 5873
Laughlin, NV 89029
702/298-4252

Triangle Audio Inc.
PO Box 1108
Sterling, VA 22170
301/526-6224

True BASIC
12 Commerce Ave.
West Lebanon, NH 03755
603/298-8517

TrueLight Software
9610 South 1040 E.
Sandy, UT 84094
801/572-2450

Tychon Technologies
25000 Euclid Ave.
Cleveland, OH 44117
216/531-2155

UBZ Software
395 St. Albans Ct.
Mableton, GA 30059

UNH Dept. of Computer Science
Chuck Grasso
Kingsbury Hall
Durham, NH 03824
603/862-3778

Unicorn Software
2950 E. Flamingo Rd.
Greenview Park
Suite B
Las Vegas, NV 89121
702/737-8862

Unison World
1321 Harbor Bay Prkwy.
Alameda, CA 94703
415/748-6670

Utilities Unlimited
12305 NE 152nd St.
Brush Prairie, WA 98606
206/254-6530

Vega Technologies
3171 Iris St.
San Ysidro, CA 92073

VersaSoft
4340 Almaden Expressway
Suite 250
San Jose, CA 95118
408/723-9044

Very Vivid Inc.
1499 Queen Street W.
Toronto, Ontario
Canada
416/537-7222

Vision FX
382 University Ave.
Palo Alto, CA 94301

Vivid Produce
PO Box 127, Stn. B
Toronto, Otario
Canada M5T 2T3
416/686-7850

Walt Disney Computer Software Inc.
2600 West Olive Ave.
10th Floor
Burbank, CA 91505
818/972-3440

WaveTable Technologies
1647 Wollowpass Rd.
Suite 267
Concord, CA 94520
415/947-0689

Weather Connection Inc.
405 N. Wabash
Suite 1509
Chicago, IL 60611

West Chester Software
PO Box 38
West Chester, PA 19381

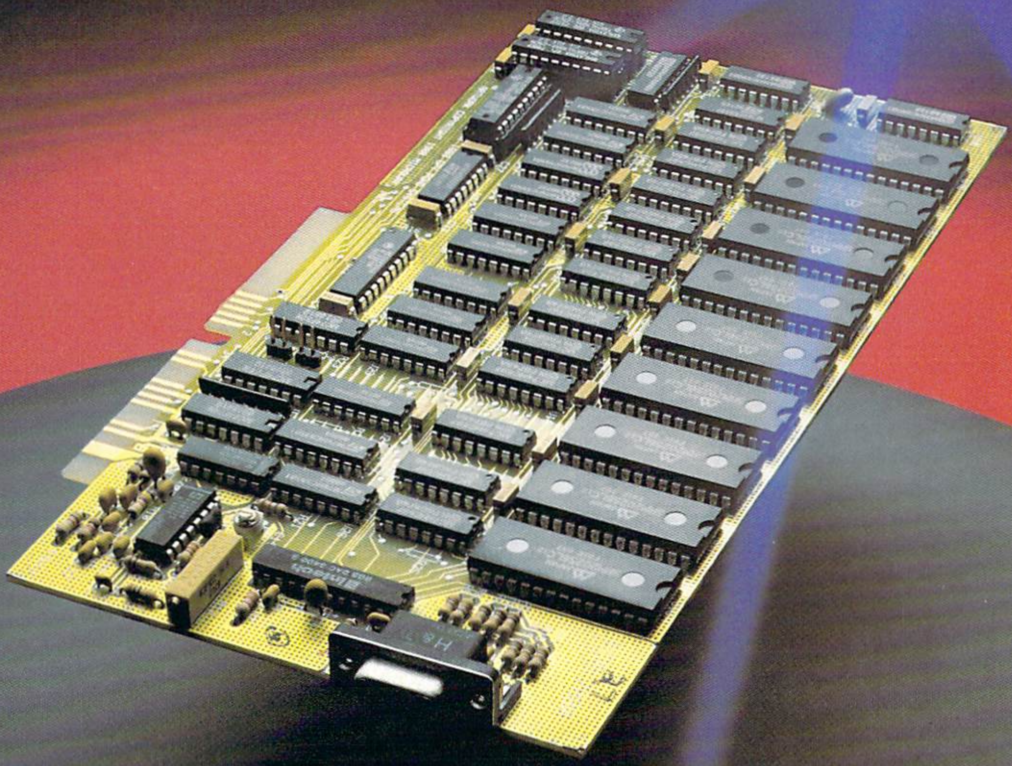
William S. Hawes
PO Box 308
Maynard, MA 01754
617/568-8695

WordPerfect Corp.
1555 N. Technology Way
Orem, UT 84057
801/225-5000

Zen Software
815 East 7th Ave.
Olympia, WA 98501
206/352-0766

Zuma Group
6733 N. Black Canyon Hwy.
Phoenix, AZ 85015
602/246-4238 ■

AGA 2000
The flickerFixer™



UNLOCK THE GRAPHICS POWER OF YOUR AMIGA 2000!

flickerFixer is an advanced graphics adaptor that eliminates your Amiga 2000's interlace flicker and visible scan lines. The result: superior quality color or monochrome graphics and text — for such demanding applications as CAD/CAM, Desktop Presentation, Graphic Design, Animation, 3D Modeling, Video, and Word Processing.

flickerFixer upgrades the Amiga 2000 with a flicker free 4096 color palette, has an overscan mode that features a screen size of 704 x 470 pixels and drives most of the popular PC Multiscan and VGA monitors, including the NEC Multisync and Mitsubishi XC1429C.

Accolades include: ***Best of 1988 Award,*** Commodore Magazine (12/88); ***#1 Reader's Choice Award***, AMIGAWORLD (12/88); ***"The display is fantastic . . . It is the best display we have ever seen on any computer system."*** Amiga GURU (5/88)

flickerFixer fits into the Amiga video slot, is fully compatible with all software, and does not modify the standard Amiga video signals. For more information or to order, call MicroWay Sales at (508) 746-7341 or your Amiga Dealer. Priced at $595, ***flickerFixer*** is made in the USA and is FCC Class B approved.

MicroWay . . . Respected throughout the industry for high quality engineering, service and technical support.

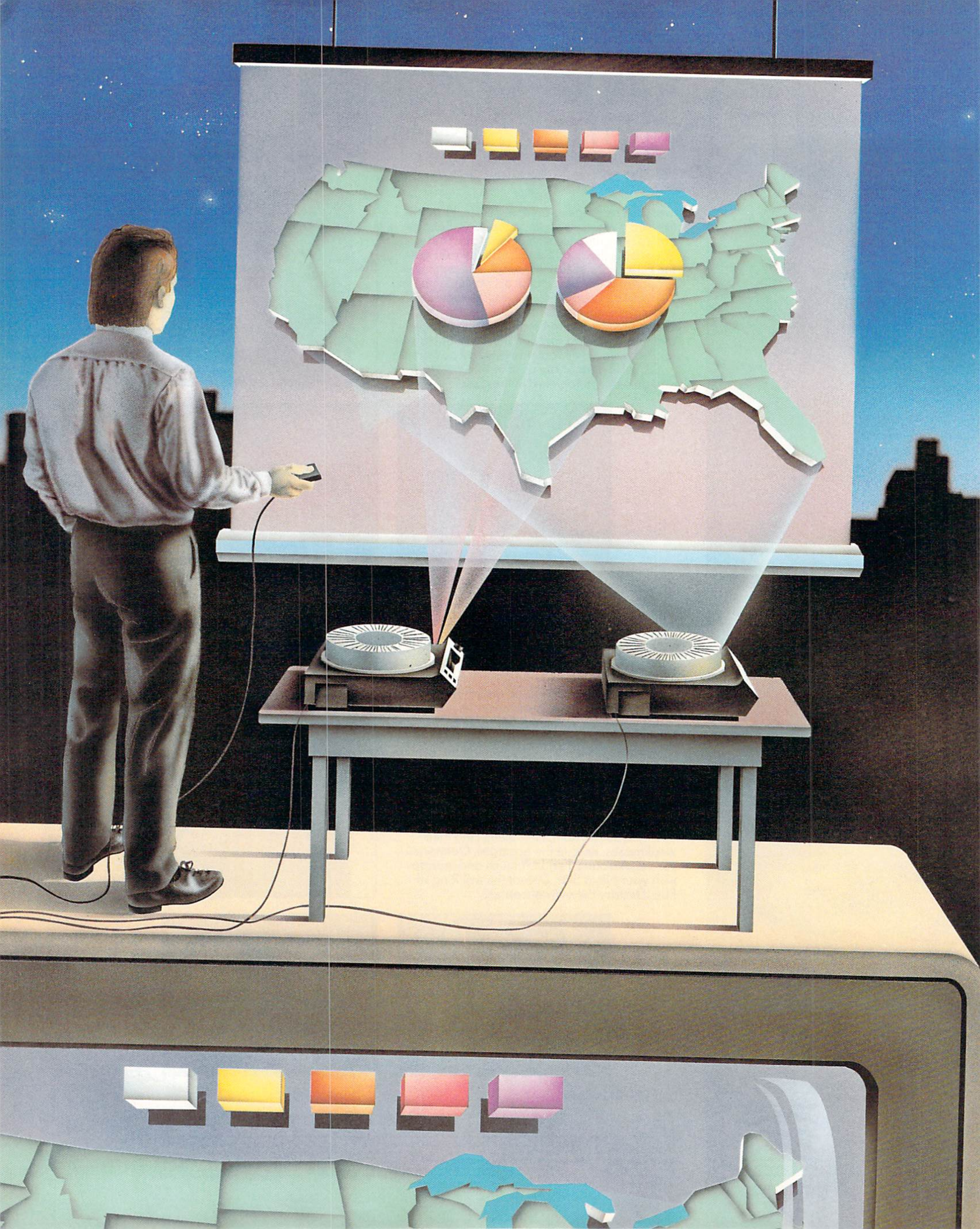
MicroWay

World Leader in PC Numerics

P.O. Box 79. Kingston, MA 02364 USA (508) 746-7341
32 High St., Kingston-Upon-Thames, UK, 01-541-5466
USA FAX 617-934-2414 Australia 02-439-8400

Circle 78 on Reader Service card.


HEAVY
METAL
HEAVY
MENTAL
ARCADE
SEGA™
HITS



"PROJECTING" Your Best Image

With a little coaching and the right equipment, you can use your Amiga to create a high-quality multi-projector slide-show presentation at reasonable cost for almost any business or professional purpose.

By Geoffrey Williams

Consider the irony: Although the Amiga shines as a tool to create top-drawer video and interactive presentations, most businesses still rely on slide-show projectors for their presentations—thus wasting many of the benefits of convenience, cost-effectiveness, and quality that this personal-computer solution has to offer. Result: If you need to create presentations for your company or professional organization, or provide such a service for others, you're pretty much compelled to create a traditional slide show.

Frustrating? Yes—but no reason to throw in the towel and abandon your Amiga. With the right basic knowledge, you can put your Amiga to work to create excellent slide graphics and to help you plan and develop effective slide-show presentations.

Multi-Projector Presentations: Sophisticated Power

Using a single projector may still be common for small or informal presentations, but shows for larger groups use from three to several dozen projectors, all synchronized by a controller. The same audiotape that contains the musical score and sound track usually has a separate track reserved for audio tones that control each projector to tell it how long to show each image and what type of transition (bang, fade, dissolve) to use.

The sequence of events is programmed on a special computer that converts the sequence information into such audio tones. This is a fairly sophisticated process, and although there is a hardware/software package to do this on the Amiga available in Germany, as of this writing nothing similar exists in the US. You will usually have to go to a service house (found under "Audio-Visual" in the Yellow Pages) that will do the programming for you for around $50 an hour. They will type the timings and transitions into something very similar to a spreadsheet, and they usually have all the projectors set up so that the show can be tested with the slides (and with music, if you have it).

It is well worth your time to look at the way the service bureau's computer is set up before you begin putting your show together. You may be able to create something very similar in a spreadsheet, which will allow you to make changes and play around with it ►

while keeping accurate track of timings. You can then print out the spreadsheet so that the programmer has an accurate and easy-to-follow list. This will save you a lot of money, as simple errors can take a lot of additional programming time to fix.

CREATING SLIDES ON THE AMIGA

Professional slide services usually create slides with very high resolution, far higher than the Amiga can display. The Amiga can produce excellent slides, but you will need to use anti-aliasing, which is the same technique used in video to create an apparently higher resolution than is possible to display on a normal television set. By adding shades of a lighter color around the areas in which jaggies appear, the image will look smoother to the eye.

You can anti-alias an image by hand, or use a program that will do it for you. DeluxePaint III will apply anti-aliasing to any brush when you use Perspective mode. Reduce the size of the brush with High Anti-Aliasing turned on in the Perspective mode. You may have to experiment a bit, however, because results can be a little unpredictable. (See Joel Hagen's "Accent on Graphics" column, p. 42, in the February '89 issue of *AmigaWorld*, for hints on several other DeluxePaint smoothing techniques.) Another easy technique to decrease jaggies is to outline a brush in different colors. Figure 1 shows two different outlines used to smooth out text. DeluxePaint III has an automatic outlining capability.

Smooth-looking text is critical, as it is often the most important part of a slide. One of the features of Digi-Paint 3 (NewTek, $99.95) is its ability to automatically anti-alias any font, and as you can see from Figure 2 (top), it does a good job. The enlargement to the left shows how the extra colors are added (in this case, two shades of gray). This is currently the only paint program to offer this feature, making it very handy for slide work. Because anti-aliasing does require extra colors, using a HAM (Hold-and-Modify) program to create your slides may give you the best results.

You can also obtain anti-aliased text by using a character generator. All of the professional versions offer this feature. Figure 2 (bottom) shows how Pro Video Gold (Shereff Systems, $299) anti-aliases text using a single, user-adjustable color. You can import IFF backgrounds and save the entire image with text as an IFF file—although you can use only the program's custom fonts in this way. As of this writing, Broadcast Titler (InnoVision Technology, $299.95) has a similar restriction, although a module to transform any font into an anti-aliased font the program can use may be available by the time you read this. Broadcast Titler cannot save images as IFF files and does not multitask, so it will not work with the Polaroid Palette.

I would also suggest picking up the entire set of Kara Fonts (Kara Computer Graphics), as they are indispensable to anyone creating slides, and most of them are so well designed they need no anti-aliasing.

FROM SCREEN IMAGE TO FINISHED SLIDE

The next step in the process is to turning the Amiga image into a slide. The least expensive method is to take a photograph of the screen. Expert Jim Sachs recommends shooting in a darkened room from at least ten feet away. Using a zoom lens will flatten out the picture and reduce monitor curvature. Turn down the brightness and contrast on the monitor to

Getting Started

Storyboarding Your Show

PLANNING IS CRITICAL to the success of a multi-projector slide show, and it is common practice to create a *storyboard* that shows visually the sequence of events along with text describing the action. This is normally done by hand by an artist, but I have used the Amiga instead. I have my artist prepare roughs of the images we are going to create using DeluxePaint (Electronic Arts, $149.95). We also do sketches for the photographs we will shoot on location, again using DeluxePaint or digitizing from sketches already created.

I have devised a storyboard template in Professional Page (Gold Disk, $395) with boxes for the images and boxes for text directly below them. I then add the text and import my images into the boxes. The printed result provides a very professional-looking storyboard, and because the printed images are much smaller than the originals, "jaggies" are reduced considerably. Changes are easy to make, and it also serves as a visual shooting script. *—GW*

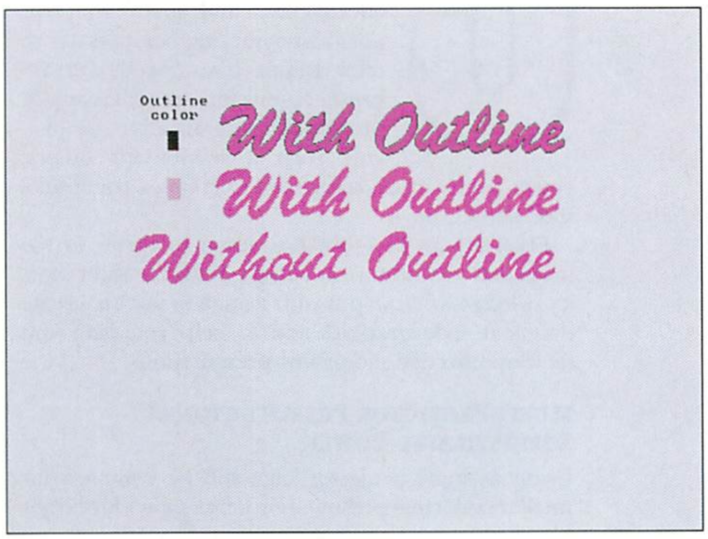


Figure 1. Outlining a brush in different colors is one way DeluxePaint III can anti-alias images and text.

reduce glare (very bright colors will glow and bleed in the photograph). The basic camera setting is F-stop 4 and one-quarter second exposure.

The real key, however, to getting usable results from this method is to employ a technique called bracketing. Use a range of F-stops and take several shots at each setting. Within each group, vary the shutter speed so that you also get a range of different exposures. You will go through a lot of film, but the odds of obtaining a suitable shot will increase greatly.

You may find that in certain shots the image will appear brighter in the middle than at the center. This is more likely a result of the way the monitor functions, rather than something lacking in your shooting technique, but following the bracketing procedure will minimize the effects as much as possible. In a similar way, you might also have problems with getting even grays.

The Polaroid Palette (Polaroid Corp., $1495) has become the standard piece of hardware for making slides from Amiga graphics. Used with the Imprint interface (Liquid Light, $495), it provides good output, although there are sometimes visible scanlines and strange dropouts. It also produces softer images, which are better for slides but not always what you want for print use.

The more expensive FreezeFrame ($1995) from Polaroid does a better job, completely eliminating scanlines and recording directly from the RGB or NTSC (National Television Standards Committee) signal. It can even take a picture of a genlocked image. Because it does not require any special software or interface on the Amiga, it can take screen shots from programs that do not allow multitasking. (For a review of the FreezeFrame, see p. 44 in the June '89 issue of *AmigaWorld*.)

If you do not have $2000 to invest in your own slide-making equipment, you will need to use a slide service. (A selection of these is contained in the "Slide Services" list accompanying this article.) Hammond Photographic Services, which uses a slightly longer lens to get full-frame slides, provided me with the following tips:

- Use only standard Amiga screen sizes (no overscan).
- Create a border at the top and bottom of the screen of 18 pixels in hi-res and nine pixels in lo-res so that ►



Figure 2. Both Digi-Paint 3 and Pro Video Gold anti-alias text by adding one or more extra colors to smooth out "jaggies."

Up and Running

Animation and Special Effects

USING MORE THAN one projector to present your slide show will enable you to add animation and a variety of special effects. Typically, three projectors are used, with each showing one slide while the others are switching to the next image in their slide trays. You will also need a controller—often called a Dove—to automate the projectors. Achieving a top speed of about two slides per second—depending upon the speed of your controller and the number of projectors you are using—you will be able to create some very effective "animated" sequences.

You can also have two projectors display an image at the same time, which allows you to create composite images combining photographic and computer-created slides. In a show I did in Los Angeles, the first projector showed a slide of an empty Dodger Stadium, while a second later the slide in projector two slowly faded up with a DeluxePaint image in the shape of a person but with bright orange, white, and yellow colors on a black background. A moment later, projector three slowly faded up with an image of the stadium with a real person standing in the same position as the DeluxePaint outline, as projectors one and two faded out. The result was a very convincing "magical" appearance of a person. With more projectors, we could have made the DeluxePaint image shimmer and twinkle as the person appeared.

Instead of going to the expense of having special composite slides made up, if you are using multiple projectors you can project Amiga titling from one projector on top of a slide of people or any other live subject. Make sure that the titling slide has a black background (which is transparent when projected) and that the area on which you want the titling to appear on the other slide is also dark. A little bit of black tape or slide paint can also be used to black out an area of a slide.

The key element for any of these effects is careful registration. Mount your slides in pin-registered glass slide mounts. All slides should be mounted in the same type of mounts. The cardboard mounts in which most slides come are so thin that the slides will shift forward or back in the slide trays, throwing them out of registration. The pins in the registered slide mounts ensure that the slides will be positioned accurately. You should also use a pin-registered camera, such as the Ricoh XRM or the Nicon F-3, to make certain that each slide has the pin slots in the exact same position. *—GW*

the screen matches the aspect ratio of the slide. (Anything in these border areas will be cropped off.)

- Leave color 0 black.
- If you are using DeluxePaint, turn off the Stencil feature before saving the image.
- Do not make images and text too small (text should be at least 25 pixels high), and avoid crowding the screen.
- Avoid line widths of one pixel.
- Keep colors rich and saturated.
- HAM and standard resolutions will reproduce, but do not use Extra_Halfbrite mode.
- Make sure that you paint underneath the title bars and menu strip in DeluxePaint.

While most of these tips apply for other services, you may want to contact your local slide service before creating your slides to see if they have any special requirements.

Most slide services use the Polaroid Palette system, with the notable exception of Philadelphia Video Lab. They use a proprietary process to produce the best quality slides available. Most of their clients are corporations and magazines, and their service is a bit expensive. They have recently inaugurated a consumer version of their service, however, at a considerably reduced price.

Sound Advice: Adding Audio to Your Show

You can also use your Amiga to score your slide show and add sound effects. You will need good quality recording equipment with which to tape your audio. Many slide-show controllers rely on the second audio track to record the tones that sequence the projectors. If this is the case, you are just as well off making a mono, rather than a stereo recording.

You can find a lot of digitized sounds on bulletin boards and PD disks, or you can use an audio digitizer such as Perfect Sound (SunRize Industries / MicroSearch, $89.95) to record your own. There are many sample editors available to customize your sounds after recording them. We have used Audio Master II (Aegis, $59.95) to modify a car horn to make it sound like a ship's steam whistle, and we combined thunder and an explosion to get just the right sound of lightning hitting an object and blowing it to pieces. An audio editor also lets you adjust the sound effect so that it runs the exact amount of time you need.

We use Sonix (Aegis, $79.95) for music because of its ability to handle very high-quality digitized samples and to use them as instruments. It also allows us to incorporate sound effects in the score. We record the score directly out of the audio channels onto metal tape with Dolby B and get very good results. Music X (MicroIllusions, $299.95) will let you control a MIDI synthesizer and play Sonix instruments on the Amiga side.

Testing the Sequence

Time is money when you go in to have your slide show programmed. The more you know about how you want things to look, the less time you will spend tinkering as the slide sequences are programmed. We use the Amiga to test slide timing and animation sequences before we go in to program. Using any animation package that animates IFF images and lets you set how long each frame is shown, you can create an animation that will look much like the finished projected version. We have used the storyboard graphics (see "Storyboarding Your Show" under ***Getting Started***) to animate the live sequences, but you could also digitize slides in black and white and to get a good idea of what the live sequences will look like.

It is a great advantage to be able to see how things will look when they are sequenced, even before you have your slides printed. It is especially important to see how animated sequences look, so that you will know if you need an extra image or two before going in to the studio. You can easily set in advance how long you need a text screen to stay up. You can create the projected overlay effects by using two screens in DeluxePaint and merging the back one with the front. In short, you will save hundreds of dollars in programming costs because you can do experimenting on your own time and not when you are being charged by the hour. It is amazing how fast the costs add up with even small changes.

It is at this point that you should also consider whether you want a video recording of the slide show. The easiest way to do this is to make a recording when you have it programmed and tested. Trying to shoot during an actual performance is chancy. You ►

Up and Running

Digitizing Your Slides

THERE ARE TIMES when you may want to digitize a slide, perhaps to make a composite slide with text overlayed, or to test the animation sequence as described above. An easy way to record a slide with a video camera is to tape the slide over a macro lens and aim the camera at a light source. This will work fine with Digi-View (NewTek, $199.95) when working in black and white. For full-color digitizing, mount a two-foot square piece of rear projection screen material (which can be purchased by the yard—check the sources at the end of the "Slide Services" list) onto a free-standing frame and project an image onto it from the rear. The Digi-View camera records the image from the front of the screen, and you will not have to worry about even lighting.

—GW

may need to make several adjustments in order to get it on tape just the way you want it.

You must plan ahead, as slides are fifteen percent wider than a video image. Graphics that go to the edge of the slides will be cut off, so design your slides with seven percent at each edge that can be trimmed without cutting off important information.

After all your work is done, the best part is sitting back and watching the show with an audience. You will also have the satisfaction of knowing that using the Amiga can save you hundreds of dollars on a slide-show presentation. While the Amiga is not the perfect solution for every situation, for most business applications it will give you very good quality at a very low price. ■

Geoffrey Williams is Executive Producer for Creative Business Communication and head of the Amiga Video-Graphics Guild, a nonprofit group that meets monthly to provide information on, and encourage the use of, the Amiga as a video and graphics machine. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Slide Services

Applied Creative Arts
55 Grace St.
Malden, MA 02148
617/322-4571

CV Designs
61 Clewley Rd.
Medford, MA 02155
617/396-8354

Excalibur Graphics
819 W. Auman Dr.
Carmel, IN 46032
317/846-3718

Hammond Photographic Services
11280 Washington Place
Culver City, CA 90230
213/390-3010

Mueller Visual Productions
4024 28 Ave. #2
Rock Island, IL 61201
800/255-2255

Philadelphia Video Lab
2214-14 Walnut St.
Philadelphia, PA 19103
215/567-3222

Slide City
6474 Highway 11
Deleon Springs, FL 32028
904/985-1103

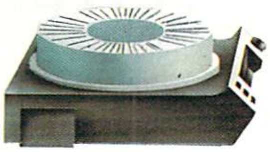
Tru-Image
PO Box 660, Cooper Station
New York, NY 10276
212/777-7609

REAR-PROJECTION SCREEN MATERIAL

Rosco
36 Bush Ave.
Port Chester, NY 10573
914/937-1300

and

1135 North Highland Ave.
Los Angeles, CA 90038
213/462-2233



Manufacturers' Addresses

Aegis Development
2115 Pico Blvd.
Santa Monica, CA 90405
213/392-9972
800/345-9871

Electronic Arts
1820 Gateway Dr.
San Mateo, CA 94404
415/571-7171

Gold Disk
PO Box 789, Streetsville
Mississauga, Ontario
Canada L5M 2C2
416/828-0913
800/387-8192

InnoVision Technology
PO Box 743
Hayward, CA 94543
415/538-8355

Kara Computer Graphics
6365 Green Valley Circle
No. 317
Culver City, CA 90230
213/670-0493

Liquid Light Inc.
2301 W. 205 St.
Suite 106
Torrance, CA 90501
213/618-0274

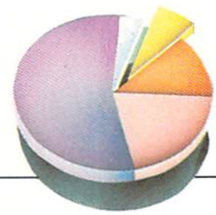
MicroIllusions
17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041

NewTek
115 W. Crane St.
Topeka, KS 66603
913/354-1146
800/843-8934

Polaroid Corp.
575 Technology Square
Cambridge, MA 02139
800/225-1618

Shereff Systems
15075 S.W. Koll Pkwy.
Suite G
Beaverton, OR 97006
503/626-2022

SunRize Industries
distributed by MicroSearch
9896 S.W. Freeways
Houston, TX 77074
713/988-2818



Amiga Specials Everyday

SUPER SPECIALS



Great Valley
Impact A500-HD30
$759

Impact A500-HD30 w/ 2/0 RAM
$809

Impact A500-HD30 w/ 2/2 RAM
$1179

DISK DRIVES

Supra	
20MB Ext. (A500)	$559
20MB Ext. (A1000)	659
60MB Ext. (A500)	879
60MB Ext. (A1000)	1029
30MB Int. (A2000)	569
45MB Int. (A2000)	659
80MB Int. (A2000)	1159
Miniscribe	
20MB Int. 3½" 40MS	259
20MB Int. 3½" 65MS	239
C. Ltd.	
33MB Ext. (A500)	729
33MB Ext. (A1000)	769
44MB Ext. (A500)	799
44MB Ext. (A1000)	879
65MB Ext. (A500)	899
65MB Ext. (A1000)	939
33MB Int. (A2000)	659
44MB Int. (A2000)	1079
60MB Int. (A2000)	979
Great Valley	
Impact A2000-2/0	289
Impact A2000-2/2	$729
Impact A2000-HC/40Q	799
Impact A2000-HC/80Q	1199
Impact A500-2/2	499
Impact A500-HD20M	709
Impact A500-HD40Q	989

Call For Configurations Not Listed!

Buyers Special



Communication Specialities
Gen/one Genlock
$649

Megatronics	
3½" Internal Air Drive	119
3½" External Air Drive	145

PRINTERS

Alps	
Allegro 24 24-Pin Flatbed	$319
Brother	
M-1109 100cps Dot Matrix	179
M-1709 240cps, 132 Color	369
Canon	
Canon BubbleJet 130	799
C.Ltd.	
Laser Xpress	2199
Epson	
LX-810 200cps, 80 Col.	179
FX-850 264cps, 80 Col.	339
FX-1050 264cps, 136 Col.	Call
LQ510 180cps, 24-Wire	339
LQ-850 330cps, 24-Wire	Call
Hewlett Packard	
ThinkJet 2225	329
Okidata	
Okimate 20 Color	139
ML-172 180cps, 80 Col.	199
ML-182 Turbo 220cps	239
ML-320 300cps, 80 Col.	359
Panasonic	
KX-P1180 192cps, 80 Col.	185
KX-P1191 280cps, 80 Col.	239
KX-P1124 192cps, 24-Wire	339
Star Micronics	
NR-1000 Rainbow Color	229

AUDIO/VIDEO

A-Squared	
Live-A1000	$229
Live-A500	299
Live-A2000	329
Anakin Research	
Easyl Draw A1000	349
Easyl Draw A500	349
Easyl Draw A2000	389
Digital Creations	
SuperGen Genlock	685
Magni	
4000 Genlock w/Remote Control	1839
Mimetics	
Genlock	145
Midi (A1000)	42
Midi (A500/2000)	42
Microway	
Flicker Fixer	479
Progressive Peripherals	
Pro-Gen Genlock	359
Frame Grabber	519
Sunrize Industries	
Perfect Vision	199

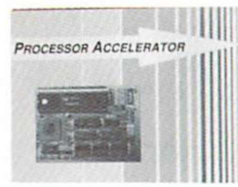
AUDIO/VIDEO

Electric Color Splitter	$ 89
Perfect Sound	69
Image Scan	129
Summa	
APRO Draw w/Cursor	499

MODEMS

Anchor	
1200 Baud External	$ 99
2400 Baud External	159
Hayes	
Smartmodem 300	149
Smartmodem 1200	279
Smartmodem 2400	419
Practical Peripherals	
1200 Baud External	85
2400 Baud Internal	145
Supra	
SJ2400 External	119
SJ2400zi Internal/2000	145

Super Buy



Creative Microsystems
Processor Accelerator
$175

BOARDS

Creative Microsystems Processor Accelerator	
A500/A2000	$175
A1000	189
Microbotics	
Starboard II	Call
Upperdeck	45
8 Up (A2000)	179
Hard Frame	249
Spirit Technology	
1.5MB w/OK (A1000)	259
1.5M w/OK (A500)	299
Supra	
8MB Board w/2mg	519

CMO

Computer Mail Order. Since 1981—Low Prices, Large Selection, Fast Service.

Call 1-800-233-8950!

MONITORS

Magnavox	
8762 14" Comp/RGB	$249
14" Color RGB/Comp	259
Nec	
Multisync IIA	$499
Sony	
1302 13" Multiscan	699
1310 13" RGB	339

SOFTWARE

Accolade	
J. Nicholas Golf	$ 33
Test Drive II	29
Grand Prix Circuit	33
Action Ware	
P.O.W.	24
Prison	26
Creature	26
Aegis	
Draw 2000	159
Lights, Camera, Action	49
Videoscape 3D	119
Video Titler	95
ANImagic	69
Broderbund	
Where in The World	28
Fantavision	38
Sim City	32

Hot Special



EPYX
California Games
$29

Byte by Byte	
Animate 3D	105
Sculpt 3D	75
Sculpt 3D Excel	109
Sculpt/Animate 4D	429
Sculpt/Animate 4D Jr.	95
Centaur Software	
BAD	33

SOFTWARE

Contriver	
M4 Replacement Mouse	$ 40
C.Ltd.	
Jet Master	50
Cinemaware	
Lords of The Rising Sun	32
Rocket Ranger	32
Three Stooges	32
TV Sports	32
Krystal	33
Digitek	
Hole-in-One	25
Hole-in-One Courses	14
Discovery	
Marauder II	24
Sword of Sodan	32

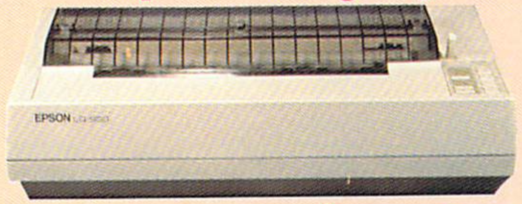
Best Buy



NEW TEK
Digi•Paint 3
$57

Electronic Arts	
Master Ninja	21
Zany Golf	27
Deluxe Paint III	99
Epyx	
Battleship	21
Technocop	33
Gold Disk	
Design 3D	66
Desktop Budget	48
Movie Setter	64
Professional Page 1.2	219
Incognito	
Kings of England	30
Melbourne House	
War in Middle Earth	32
MicroDeal	
AMAS (A500/2000)	64
International Soccer	28
Tetra Quest	27
Zero Gravity	19

CMO Super Savings Special



EPSON
LQ950
264 cps, 24-Wire

$499

Micro Systems	
Scribble! Platinum	$ 92
Excellence	179
On-Line! Platinum	62
Micro Illusions	
Music-X	199
Mindscape	
Balance of Power 1990	32
Hostage	29
New Tek	
DigiView Gold	139
Psygnosis	
Baal	19
Ballistix	22
Fire Brigade	33
Chrono Quest	34
Captain Fizz	25

Readysoft	
AMAX	$129
Cosmic Bouncer	21
Spotlight	
Deathbringer	26
Speedball	26
Total Eclipse	26
Sedona	
Money Mentor	52
Spectrum Holobyte	
Tetris	23
Falcon	29
TopTen	
Lombard Rally	27
WordPerfect	
WordPerfect	135
WordPerfect Library	79

Your Source for Hardware, Software & Peripherals
In U.S.A.

VISA · MasterCard · DISCOVER · LEASING

Over 500,000 Satisfied Customers

800-233-8950

In Canada call: 800-233-8949
All Other Areas call: 717-327-9575 Fax call: 717-327-1217
Educational, Governmental and Corporate Organizations
Call toll-free: 1-800-221-4283
CMO, 101 Reighard Ave., Dept. B1, Williamsport, PA 17701

POLICY: Add 3% (minimum $7.00) shipping and handling. Larger shipments may require additional charges. Personal and company checks require 3 weeks to clear. Credit cards are not charged until we ship. Pennsylvania and Maryland residents add appropriate sales tax. All prices are U.S.A. prices and are subject to change. All items are subject to availability. We cannot guarantee compatibility. We are not responsible for typographic or photographic errors.

MMC MICROCOMPUTER MARKETING COUNCIL of the Direct Marketing Association Inc.

CMO

Computer Mail Order. Since 1981—Low Prices, Large Selection, Fast Service. B912

Circle 41 on Reader Service card.



ILLUSTRATED BY DIANE TESKE HARRIS

Memory to the MAX

Find out how much is enough and how to make the most of the RAM you have.

"MORE IS BETTER" says the old axiom, but with the Amiga, memory expansion is not that simple. Like assembly-line workers, the sections of an Amiga's memory are each best suited for different tasks. If you have a labor shortage in the engine department, hiring extra hands for the body shop is no help. If you need more chip RAM to store graphics and sound, buying several megs of fast RAM is not the answer. Just as a foreman must know the employees' production capacity to keep the factory running smoothly, you must understand the various types (fast, chip, and slow-fast) of memory and their uses to make your Amiga as efficient as possible. While buying more is one answer, several system and public-domain programs will help you work around a shortage when the budget is tight.

Chip Off the Old Processor

The Amiga's multiple processors are in part responsible for the memory segregation. In addition to the computer's main processor, the Motorola 68000, the Amiga has a number of coprocessors that control graphics, sound, and disk I/O, among other things. These coprocessors can directly access a portion of the Amiga's memory and can change its contents without the intervention of the main processor. Because the coprocessors are integrated into large custom computer chips (called Agnus, Denise, and Paula), the portion of memory that they can use as their work space is called chip memory, or chip RAM. The initial 512K of the Amiga 500 and A2000, plus the A1000's 256K and 256K upgrade, are all chip RAM, accessible to the main processor or the coprocessors.

When you add a memory-expansion module to the A500's or the A1000's external bus, or plug a memory board into one of the A2000's expansion slots, you are adding another type of memory called fast RAM, or fast memory. Unlike chip RAM, fast RAM can be accessed only by the main processor, not by the coprocessors for graphics and sound storage. The main advantage of fast memory is that it does not have to be shared among the processors like chip memory does. When the custom chips and the main processor both want to use chip RAM, they have to take turns accessing it, most of the time without a wait. When there is a lot of graphics activity, the graphics chips may access chip memory so frequently that they delay the main processor's access to chip memory, slowing down program execution. With fast memory in the system, however, the main processor may access program instructions from that memory while the graphics chips are using chip RAM.

Fast RAM does have some disadvantages. Because it is not an integral part of the computer's memory architecture, expansion RAM boards require autoconfiguration circuitry to tell the computer how much memory is on the board and to let the Amiga add that memory to the system resources automatically. Memory-board prices reflect this added developers' cost. Although fast RAM does not have multiple processors competing to access it, it cannot hold graphics display or sound information. Even with eight megabytes of fast RAM, you may not be able to multitask a graphics-intensive program, such as Professional Page (Gold Disk) or DeluxePaint III (Electronic Arts), because you still have only 512K of chip RAM available.

Dormant Help

When the Amiga 500 and 2000 were created, so was a new type of built-in memory, often referred to as slow-fast RAM. In most A2000s, the second 512K of the computer's standard one-megabyte memory is slow-fast memory. In most A500s, the 512K module that attaches to the bus on the computer's underside is slow-fast memory. This portion of memory combines the worst characteristics of both fast memory and chip memory. Like fast RAM, it cannot be used for graphics or sound information. The main processor may have to wait, however, before accessing slow-fast memory, as with chip RAM. Because it is connected to the system in a manner similar to chip memory, it can be recognized automatically by the system ►

BY SHELDON LEEMON



without requiring auto-config circuitry, providing an inexpensive upgrade to one megabyte.

Slow-fast memory's latent power is unleashed by Commodore's Enhanced Chip Set. While the original custom-chip set could address a maximum of 512K of chip RAM, the newly developed One-Meg Agnus chip can address up to one megabyte of chip RAM. With the new Agnus, slow-fast memory turns into an extra 512K of true chip RAM.

Whether you should upgrade to the new One-Meg Agnus chip depends on the types of programs you run and whether you want to fully enjoy the improvements AmigaDOS 1.4 will offer. If you use programs that require a lot of graphics and sound memory (such as desktop-publishing, painting, 3-D, desktop-video, and music software), the One-Meg Agnus will let you work with larger files and multitask.

Installation requires modifications to the Amiga's motherboard, plus the delicate removal and insertion of square-package chips. Play it safe and have a registered service center do the work. The entire upgrade typically costs between $150 and $175.

If you bought your Amiga after June 1989, it may already have the new Agnus chip. You can test for its presence in an A2000 or A2500 with the AVAIL command. From the CLI or Shell, type AVAIL. If you have a megabyte of chip RAM, the third item (in the Maximum column) in the first row (marked "Chip") will read 1040152. If not, the number will be half as great.

The situation is trickier for A500 owners. You cannot tell if you have the new Agnus chip without opening up the computer. (If you have the chip, you will see only four RAM chips on the motherboard instead of 16.) Because the A500 comes with only 512K of memory, the computer is set at the factory for 512K of chip RAM. Even if you have the One-Meg Agnus and plug in a 512K expansion module, the RAM will not become chip RAM automatically. Your dealer must make internal modifications to the A500 before it will recognize the extra RAM as true chip RAM. Once the modifications are made, the computer will not operate unless the memory-expansion module is plugged in.

A1000 owners have no direct upgrade path to one megabyte of chip RAM, because the first Agnus chip is smaller than the new chips. A few third-party developers are working on adaptors that will allow the A1000 to accept the One-Meg Agnus. As of this writing, however, no details are available.

PRIORITY RANKING

The type of memory the system uses first depends on the order in which the memory is added and the priority of the various blocks of memory. Normally, fast memory has a priority of zero, while chip memory has a priority of −10. This means programs will load into fast memory first, preserving chip memory for programs that specifically request it for storing graphics and sound data. While this is usually desirable, it can cause problems with programs that were written before fast memory was generally available. Some older software assumes that all memory is chip RAM, and does not specify the type of memory to use for graphics images. As a result, the program's graphics and sound will not work correctly if you have fast RAM in the system. ►

Memory versus Storage

WHILE BOTH HOLD data and are measured in units of kilobytes (K) and megabytes (MB), computer memory and storage are two distinct entities. You can think of computer memory as the processor's temporary work space, where it holds the instructions for the programs that are currently running and the information used by those programs. Because information stored in computer memory can be retrieved only by the processor, all of it is lost when the processor loses power or you reboot the computer.

Storage devices, such as floppy and hard disks, provide a permanent residence for program and data files, as information is inscribed on the disks' surfaces. The computer's processor can address storage devices only for reading and writing, however, not for performing calculations and other operations required to run a program. While adding 40MB of hard-disk storage to a 512K Amiga lets you store a multitude of programs in one place, it will not let you run a program requiring a megabyte of memory.

Computer memory, then, is like the work area of your desk. Storage is like the drawers into which you sweep your papers each night, and from which you retrieve them each morning. □ *—SL*

Chip Sense

TO SAVE MONEY, you can purchase memory boards unpopulated (sans chips) then shop around for the best price on the chips. Make sure that the characteristics of the chips you buy match the requirements of your board. The safest way is to buy what the board's manufacturer recommends. Always make sure to check the:

• Memory capacity—The current generation of chips is divided into 256-kilobit chips and 1-megabit chips. The next generation of 4-megabit chips is just starting production, with 16-megabit chips to follow.

• Memory layout—Not all 1-megabit chips are accessed in the same way. While the most common type are 1 megabit × 1 chips, a significant number of Amiga boards used 256K × 4 chips. You can use the latter to upgrade memory in 512K increments (4 chips), while the 1 meg × 1 chips usually can be added only a megabyte at a time (8 chips).

• Access speed—Faster chips (80 nanoseconds and lower) cost a lot more than the slower chips (120 nanoseconds and higher). Because the stock 7.14 MHz Amiga is relatively slow by today's computer standards, do not feel obligated to pay extra for chips with a lower rating than 150 nanoseconds (unless the board requires them).

• Chip package—The most common plug-in style of chips are called DIPs (Dual Inline Package). These are the little plastic rectangles that look like bugs with rows of metal legs on either side. Another plug-in module is called a SIMM (Single Inline Memory Module). SIMMs are like circuit boards that let you plug in a whole megabyte at a time. Other packages turn the rectangular chips on their sides, with all of the legs coming out one edge of the chip. These include SIPs (Single Inline Package) and ZIPs (similar to a SIP, but with the legs staggered like a zipper).

• Refresh type—Most memory chips on the Amiga are Dynamic RAMs (DRAMs). The more expensive, but faster, Static RAMs (SRAMs) are used only for special applications, such as accelerator boards or battery-backed RAM disks. □ *—SL*

TRUMPCARD

LONG ON PERFORMANCE SHORT ON COST

NEW! *Trumpcard / Amax utilities package allows multiple Mac partitions and multiple Amiga partitions on the same drive!*



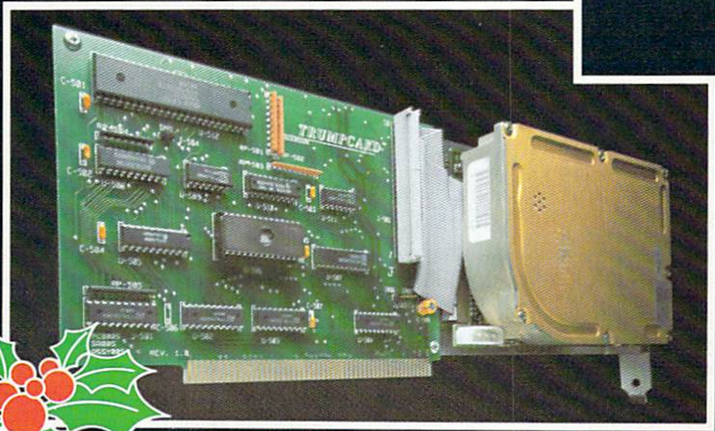
TRUMPCARD 500 *(below)*

- *Premium 500HD series drive systems* are assembled, tested, and formatted with WB1.3 by IVS.
- *Standard Trumpcard 500* includes enclosure and Trumpcard SCSI disk controller.
- High quality, ergonomically designed, color matched aluminum enclosure houses all electronics and 3.5" SCSI drive!
- Extra slot for addition of optional 4 Mbyte Ram card.
- No cost A2000 upgrade! Trumpcard, RAM, and drive are A2000 compatible.
- Sloping face of chassis eliminates keyboard interference.
- Cards and drive run from A500 bus power or optional IVS SOURCER, a premium quality 40 watt switching supply.



TRUMPCARD *(above)*

- User customizable driver supports over 20 devices.
- Transfer rates *measured* over 400 Kbytes/sec.
- Exclusive IVS checklist software makes configuration a breeze.
- IVS Smartboot autoboots all drives from cold start.
- List price $199.95.



TRUMPCARD HARD DISK CARD *(left)*

- *Premium HC series* includes Quantum drives assembled, tested and formatted with WB1.3 by IVS.
- Supports all Quantum, Seagate, Miniscribe, Conner, and Maxtor 3.5" drives.
- Identical speed as DMA to Buffer type controllers costing hundreds more!

All Products Distributed By Micro Pace.

All IVS Trumpcard products are available with drives pretested and formatted by IVS. Ask for Trumpcard HC series 2000 cards or Trumpcard 500HD series for A500.

TRUMPCARD
INTERACTIVE VIDEO SYSTEMS

11612 KNOTT AVENUE • SUITE 13 • GARDEN GROVE, CA 92641 • (714) 890-7040

Circle 54 on Reader Service Card



You can temporarily disable all fast memory with a program called NoFastMem. Located in the System drawer, NoFastMem allows programs that run correctly only in chip memory to work in a machine with fast RAM. Click on the NoFastMem icon, then run your problem program. When you are finished, reboot and the memory returns.

The public domain offers some more permanent solutions. StealMemBoot (found on Fred Fish disk #150) installs a program on a disk's boot block that automatically disables all fast RAM when you start up from that disk. If your software uses boot-block copy protection, however, do not use StealMemBoot. Writing to the boot block could render such a disk unusable. Another alternative is Fixhunk (Fred Fish disk #197). Fixhunk changes the offending program so that it requests to be loaded into chip memory without disabling fast memory. Because Fixhunk alters the program's code, use it only on a copy, not your original program disk.

The priority situation is more complex if you have both slow-fast and fast RAM. Slow-fast RAM has the same priority as fast RAM, and because it is added to the system before any expansion RAM, it is used before fast memory. For optimum performance, your system should access fast RAM first. Located in Workbench's System drawer, FastMemFirst (formerly SlowMemLast) changes the priorities of the memory blocks so that the system will use expansion RAM before slow-fast memory. If you use Workbench's default startup-sequence, you are all set. The startup-sequence runs FastMemFirst automatically when you boot the computer.

Get It Together

On a multitasking machine such as the Amiga, free memory is not always located in one solid block. Let's say you run three 100K programs that load one after the other. If you close the first program and the third program, you free up 200K of memory, but it is fragmented: The 200K consists of two blocks of 100K each, separated by the second program, which is still loaded in memory. As a result, you may not be able to load a 150K data file into a program even though you have 200K of free memory. The AVAIL command will show you the size of the largest chunk of contiguous memory.

Although you should be aware of fragmentation, you cannot do much about it unless you have two or more memory-expansion boards. Even if the addresses of the two chunks of memory are located next to each other, the boards are considered separate. If you have a pair of two-megabyte boards, the largest chunk of fast RAM that a program can access is two megabytes. The MergeMem program in Workbench's System drawer will combine the boards' memory, however, so that a program can access them as a single chunk of memory that is four megabytes in size. Simply click on the icon.

The complexities of Amiga memory result from the flexibility and power of the computer itself. Because of its multitasking, graphics, and sound capabilities, the Amiga can make use of all of the memory that you can supply. By the same token, any memory that you add to your computer will expand the range of possibilities open to you. The key is to expand most in the areas where you have the greatest need. ■

Sheldon Leemon is the author of Inside Amiga Graphics *and other books, and he is a frequent contributor to many computer publications. Write to him c/o* AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Accelerators and Memory Expansion

ACCELERATOR BOARDS THAT use 32-bit processors, such as the 68020 or 68030, raise their own memory issues. Although such boards can access all kinds of Amiga memory, they are fastest when used with their own 32-bit memory. This designation does not refer to a special kind of chip or more chips per megabyte. Rather, it refers to the way in which the chip is connected to the 32-bit processor, allowing the processor to read and write more information at a time. When buying, you should consider:

• Auto-configuration—Most memory boards auto-configure, which allows the system to recognize their memory automatically. The auto-config address space has room for only eight megabytes of expansion RAM, however, even though 32-bit processors can address up to 4096 megabytes (four gigabytes) of RAM. You can add boards that do not auto-configure on top of the eight megabytes of auto-config memory, but you must run a configuration program before the system recognizes them. Also, the memory may be incompatible with some software, such as Amiga Basic.

• DMA support—Some 32-bit memory boards (such as the ones from IMtronics and CSA) do not allow DMA devices (such as hard-drive controllers) to directly read from and write to this memory. If you are using a DMA hard drive, non-DMA expansion memory will usually mean slower hard-drive access times.

• Burst mode—Some memory boards (GVP's) for the 68030 processor support that chip's special "burst mode," which speeds up memory reads.

• Priority—Auto-config memory boards usually put the 32-bit memory at the top of the memory list, while others (such as IMtronics' and CSA's) do not. If you are using a RAM disk, for example, you may not want this "faster" fast RAM used right away, however. Some public-domain programs—such as MemPri (available on CompuServe)—allow you to temporarily change the order in which such memory is used. □ *—SL*

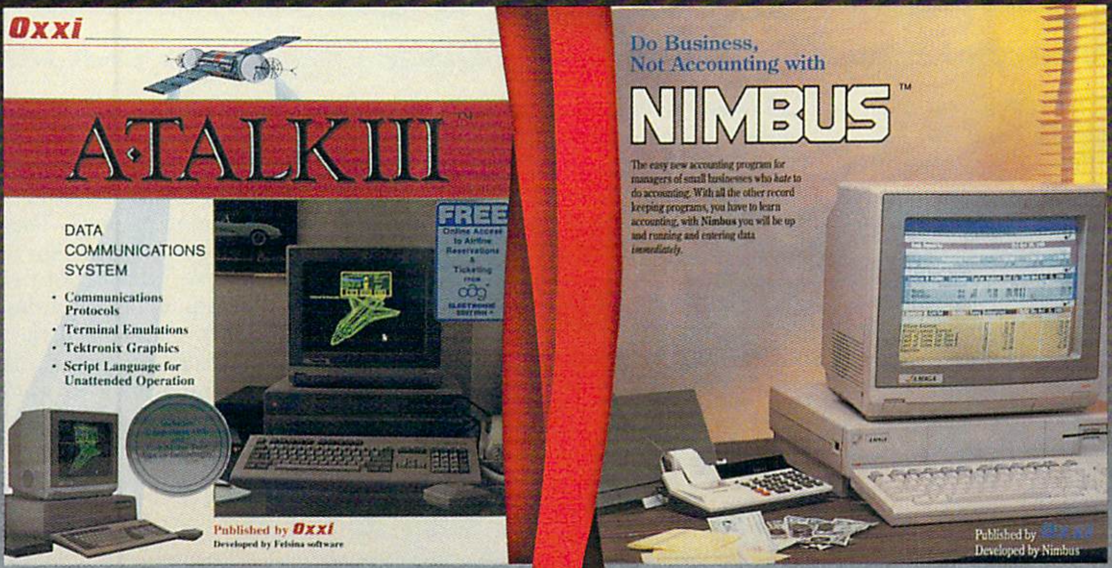
Future Memory

SOMEDAY YOU MAY not have to buy a memory board to expand your system. Newer accelerator boards contain a chip called a Memory Management Unit (68030 processor chips have an MMU built in) that lets your Amiga use storage devices such as hard drives as if they were very slow memory devices. When a program runs out of memory, it can read from and write to the disk instead of RAM. Version 1.4 of the operating system will lay the groundwork for this development (called Virtual Memory), but full support will probably be a little farther down the road.

In the meantime, software developers take note: If your programs ask for 32 megabytes of memory, someday they just might get them. □ *—SL*

THIS SEASON'S M.V.P.s*

**(Most Valuable Programs)*



A·TALK III™

Ahead of the Pack

A-Talk III, the first communications program for the Amiga Computer™ to bring you an ARexx language interface now adds support of ASDG's new multi-serial port cards for the Amiga 2000™. With A-Talk III and ASDG's multi-serial cards you can now set up a multi-line BBS. A-Talk III is a professional program maintained by professionals.

Standard A-Talk III features include:

- Advanced Script Language with over 50 commands, interactive commands, and automatic generation of logon Scripts.
- ARexx Language Interface.
- Over 9 protocols including: XMODEM, YMODEM-g, Kermit and WXMODEM and ZMODEM resume.
- Global setting screen for setting up parameters for host systems.
- Support for over 10 modems including Hayes™, HST and Telebit.
- Busy signal detection.
- System Clipboard support with Cut, Copy and Paste.
- International Fonts and Keyboard Support.
- Terminal emulations including: VT100, VT52, H19, ANSI, and Tektronix 4010/4010, IBM PC ANSI Color Graphics.
- Overscan in NTSC and PAL

Requires 512K, 1 Meg of Memory Recommended

List Price: $99 US

Critics' Praise:

"More file transfer, display and communications options than you can shake a stick at." — *INFO Magazine*

"One of the most powerful communications packages on the market" — *Amiga World*

"I would wholeheartedly recommend your using A-Talk (III)" — *Amiga Sentry*

"If you need a communications package that does it all" — *Amazing Computing*

"A-Talk, the outstanding commercial program from America" — *Your Amiga (UK*

"A-Talk III sets new standards" — *Amiga Markt & Tech*

"A sportscar disguised as a Volkwagen" — *Dator Maga*

"A-Talk III is the program of choice" —*Amiga G*

NIMBUS™

Tackle Business, Not Accounting

Nimbus simplifies the accounting process so you can get on with your business. Accounts are kept on a cash basis, automatically transforming your check book register into an Income Statement and Balance Sheet. Setting up Nimbus is as easy as entering your company name, address and an opening account balance. Forget debits and credits, Nimbus disperses amounts to proper accounts as you write checks and create invoices. Customers and vendors are kept track of by name not an assigned number. The built-in Chart of Accounts can be used as is, or edited to suit your particular requirements.

Standard Nimbus features include:

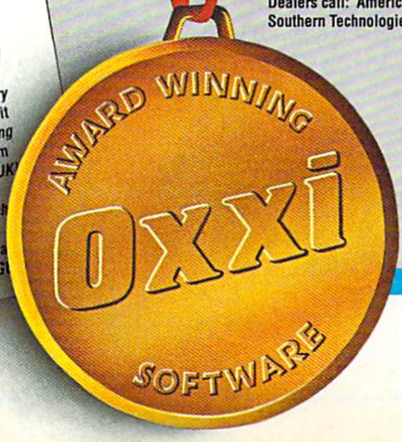
- Fully integrated General Ledger, Sales/Accounts Receivable, Purchases/Accounts Payable
- Standard reports including aging report available at any time
- Logically progressive Mini-menus guide you through the data entry process
- Daily, weekly, or monthly sales and expense reports
- Separate Customer Statements
- Capsule statement available at bottom of each invoice if desired
- Utilizes Hard Disk and separate Data Disk for unlimited invoicing and payables.
- Plain paper or pre-printed Invoices and Statements

Requires 512K, 1 Meg of Memory Recommended

List Price: $159 US

Both Now Available from your Amiga Software Dealer

Dealers call: American Software, Comp Rehend, Micro-Pace, Soft-Kat, Southern Technologies or Triangle Electronics.



Oxxi inc.

P.O. Box 90309, Long Beach, CA 90809
(213) 427-1227

Circle 75 on Reader Service card.

The 1989 Experts' Choice Awards

VOTED BY

Gene Brawn	**Joel Hagen**	**Patrick Quaid**
Bill Catchings	**Morton Kevelson**	**Dorothy Rankin**
Nancy Devitt	**Loren Lovhaug**	**Joel Tessler**
Chris Dickman	**Gary Ludwick**	**Tim Tully**
Gary Fields	**John Massengail**	**Mark Van Name**
Dean Friedman	**Dave McClellan**	**Lou Wallace**
Roger Goode	**Margaret Morabito**	**Tim Walsh**
Randy Greenwald		**Geoffrey Williams**

IN RECOGNITION OF outstanding software (and to help you get the most for your money), *AmigaWorld* presents the winners and runners up in the 1989 Experts' Choice Awards. Each is followed by a synopsis of the judges' comments.

This year's panel was culled from our writers and professionals who use the products daily in their studios and offices. Artists and animators examined graphics programs; publishers evaluated desktop-publishing software; architects rated CAD packages; and musicians ranked the music category.

For manufacturers' addresses and more information on the winners, consult our Software Buyer's Guide on page 21.

ACCOUNTING

EasyLedgers
Brown-Wagh, $295
Accounting is difficult enough without having to fight the interface. EasyLedgers is simple to use and offers on-line help for the General Ledger, Inventory, Accounts Payable, and Accounts Receivable sections. One step postings automatically update all accounts. For pre-project accounting, Job Estimating, Costing, and Charging functions are in the works.

The Accountant
KFS Software, $299
For those who like traditional accounting packages and are willing to invest some time, The Accountant has all the basic modules—Sales, Expenses, Receivables, Payables, Inventory, Cost, Payroll, and more.



CAD

X-CAD Designer
CADVision International, $149.95
Unlike its predecessor, X-CAD Designer has a friendly, intuitive interface that gives you access to the arcs, ellipses, splines, and other traditional drafting commands. You can then print your up to 256-layer design to a dot-matrix printer or a plotter. For disk saves it supports it own format, plus Aegis Draw and IFF format.

Draw 2000
Aegis, $279.95
Like X-CAD, Draw 2000 employs standard ►

CAD functions, but not those extras that engineers and architects need.

EDUCATION

Discovery Series

MicroIllusions

The series is made up of the Discovery game ($39.95), a space adventure in which you must answer questions correctly to proceed past obstacles, and data disks ($19.95 each) for math, spelling, geography, and science. Problems for elementary to high school grades are available, making this the most flexible and enduring of the educational genre.

Where in the World Is Carmen Sandiego?

Broderbund, $44.95

You're a master detective collecting clues and scanning the world (and the included World Almanac) for the thieving Carmen Sandiego. You'll have so much fun with this graphics adventure, you might not notice you're learning geography.

GRAPHICS

2-D

DeluxePaint III

Electronic Arts, $149.95

As one ballot said, "Fait accompli." The smart design, easy-to-use interface, keyboard shortcuts, performance speed, animation capabilities, plus practically every function an artist could want make DeluxePaint III the standard against which others are judged.

Deluxe PhotoLab

Electronic Arts, $149.95

An all-in-one package with an elegant interface, Deluxe PhotoLab integrates paint options with image processing and analysis functions.

3-D

Turbo Silver 3.0

Impulse, $199

Superior lighting, fast rendering, and a multitude of functions (such as the ability to generate mountains and oceans) top Turbo Silver's list of qualifications. While it does not support the Anim standard, you can animate your objects by using simple paths. The price/performance ratio can't be beat.

Sculpt-Animate 4D

Byte by Byte, $499.95

Although it provides excellent image quality and a solid user interface, Sculpt-Animate 4D's inferior lighting and limited options hold the program back.

ANIMATION

DeluxePaint III

Electronic Arts, $149.95

For creating frame-by-frame cel animation, nothing comes close to DeluxePaint III. The environment is equally outstanding for computer-generated tweening. You'll get smooth results for both 2-D and simulated 3-D Anims with a minimum of fuss.

The Director

The Right Answers Group, $69.95

The Director is a powerful and flexible tool for creating animated presentations with excellent sound and music integration. You are limited only by your imagination and the learning curve.

HAM

Photon Paint II

MicroIllusions, $149

Special effects and animation capabilities nudged Photon Paint II past the competition. Full font support, contour mapping, a sophisticated and intuitive blend tool, and a user-definable stencil are the standouts.

Digi-Paint III

NewTek, $99.95

A very close second, Digi-Paint III sports the best anti-aliasing and speed. All the tools are practical and professional. The ARexx interface gives you added flexibility.

SPECIAL EFFECTS

The Director

The Right Answers Group, $69.95

If you have an idea for a special effect, you can probably find a way to achieve it with this graphics-oriented language. Learning the program, however, may be a bit rough, as you are programming, not pointing and clicking. The companion Toolkit module ($39.95) adds MIDI output, a text displayer, new wipe routines, and a pie chart generator.

Invision

Elan Design, $129

Although limited to use with LIVE! (A-Squared), Invision provides video effects you won't find anywhere, short of professional equipment such as a DVE or Dubner board.

VIDEO TITLERS

Pro Video Gold

PVS Publishing, $299.95

For studio use, you want a reliable and solid titler; Pro Video Gold has that professional feel. The supplied typefaces are limited, but the program is IFF compatible and anti-aliases cleanly. The many included transitions will keep your production moving.

Broadcast Titler

Innovision Technologies, $299.95

Numerous fonts with good proportional spacing and overscanned screens are Broadcast Titler's highlights. Unfortunately, the program is awkward to learn.

DATABASES

Superbase Professional

Precision Incorporated, $349.95

Flexible, powerful, and relational, Superbase can handle virtually any application. Gadgets, pull-down menus, and requester boxes coddle the novice, while the BASIC-like programming language, ARexx interface, and detailed query system satisfy the expert. Along with text and numbers, you can store IFF graphics and sounds.

Professional DataRetrieve

Abacus, $295

While this programmable, relational database is easier to learn than Superbase, it is also less flexible.

DESKTOP PUBLISHING

Professional Page

Gold Disk, $395

With an optional four-color separation module, sophisticated typographic controls, excellent PostScript support, and flexible page manipulation, Professional Page is the reigning king of desktop publishing. Add its well-implemented Amiga interface and you see why the program is at the top.

PageStream

SoftLogik, $199.95

The title of Crown Prince falls to Page-

Stream by virtue of its graphics and text manipulation, fonts, and print options.

MUSIC

M
Intelligent Music, $200
M is the first program to allow truly interactive composition, letting you and the computer make meaningful contributions at the same time. The interface is excellent for governing random pattern generation of musical sequences.

AudioMaster II
Aegis, $59.95
Flexible sample editing and a Hi-Fi play mode that exceeds the normal playback rate of 28K are this program's biggest assets.

PROGRAMMING

BASIC

HiSoft BASIC Professional
MichTron, $159.95
An integrated compiler and editor, HiSoft BASIC produces compact code quickly. Your old programs won't be outdated; HiSoft is almost completely compatible with Amiga Basic. It also gives you easy access to ROM Kernel routines.

GFA BASIC 3.0
Antic, $139.95
A rich assortment of commands plus inline C and assembly language capabilities enhance this speedy interpreter. Amiga Basic incompatibility drags it down.

C

Lattice C 5.02
Lattice, $300
This year's winner of the C war is version 5.02 of the Lattice compiler. Added options (such as registered parameters) and the global optimizer improve the code produced. The variety of compilation options, flexible linker, extensive library, and source level debugger round out this reliable package.

Aztec C 3.6
Manx, $199; $299 developer's version
Like Lattice, the Manx C compiler generates fast, efficient code, but a relatively inflexible development environment relegates it to the number two spot. The source-level debugger is an additional $125.

MODULA-2

Benchmark: Modula-2
Avant-Garde, $199.95
Benchmark: Modula-2 lives up to its name, creating small, fast programs reasonably quickly. The integrated environment makes life easier as do the optional libraries and symbolic debugger.

M2Sprint
M2S Inc., $385
This fast single-pass compiler is accompanied by ARP, IFF, and ARexx libraries. You'll appreciate the good manuals, as the program is still a bit buggy.

UTILITIES

ARexx
William S. Hawes, $49.95
The standard for inter-program communications, ARexx is a programmable command language with extensive string options. It is compliant with Amiga programming standards and uses system capabilities effectively. As the list of supporting programs grows, ARexx will only become more useful.

TxEd Plus
MicroSmiths Inc., $79.95
A fast, small, politely multitasking text editor, TxEd Plus makes code entry and editing efficient.

SPREADSHEETS

Superplan
Precision Incorporated, $149.95
In addition to all the conventional spreadsheet capabilities, Superplan sports project management options and extremely powerful (but arcane) graphing functions. For the connoisseur, it also offers two types of macros, Lotus 1-2-3 file compatibility, and an ARexx interface.

MaxiPlan Plus
Oxxi Inc., $199
Extremely easy to learn and use, Maxiplan Plus is a powerful number cruncher with beautiful graphs and database capabilities.

TELECOMMUNICATIONS

A-Talk III
Oxxi Inc., $99
Very user-friendly, A-Talk III gets you on line without getting in your way. The extensive script language lets you customize almost everything, while the expansive list of protocols assures efficient downloading.

Access
Public Domain
Straightforward and easy to use, Access gives beginners quick entry into the online world. While it lacks the multitude of protocols and options of commercial programs, the experts can't pass up a good bargain.

UTILITIES

DiskMaster
Progressive Peripherals & Software, $49.95
The intuitive design makes DiskMaster easy to run and simple to customize. The program combines common and some specialized file-management functions in a single comprehensive control screen.

Facc II
ASDG, $34.95
The program does two simple but important jobs well—speeding up floppy-disk access and managing memory.

WORD PROCESSORS

excellence!
Micro-Systems Software, $299.95
A strong Amiga interface coupled with sophisticated features is the key to excellence!'s success. To keep your document letter perfect, the package includes a spelling checker, thesaurus, and rudimentary grammar checker. You can incorporate graphics and output to a PostScript printer for professional results.

WordPerfect
WordPerfect Corp., $395
Extensive text formatting controls, a spelling checker, a thesaurus, and PostScript output all stand in WordPerfect's favor. The interface does not. ■



The "Fix" Is On

10

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

I AM SO accustomed to the mercy of the UNDO button when painting on the Amiga that I unconsciously reach for it in day-to-day life. Jab as I may, however, bread remains jelly-side down on the cat and fingers stay smashed between wrench and water pump. Fortunately, in the more easily governable world that is the subject of "Accent on Graphics," I can explore with you, in this month's installment, a variety of Amiga options for correcting mistakes and cleaning up images.

UNDO—at least in DeluxePaint and some other paint programs—is the major panacea for most problems. Remember, though, that UNDO affects only your last action (although it is my understanding that Express Paint maintains a history of actions that can be successively undone). Get used to using the U key in DPaint instead of the mouse-oriented toolbox. If your toolbox is turned off with the F10 key and you need to undo something, turning it back on to find UNDO becomes your most recent move and you are stuck. Using the U key gets around this dilemma.

Changing Colors in Midscene

The need to change an area of color is a common painting situation. For example, you may have spattered several colors into a landscape to give the effect of sand, and you now need to replace the orange with brown. Or, perhaps, you digitized a black-and-white portrait to translate into PostScript for printout. To avoid any glaring, blank shapes caused by pure white, those areas must be one level darker—the lightest PostScript dot pattern.

Obviously, you can always go into the palette and adjust any color while looking at the painting to judge the result—although this eliminates the color completely, replacing it with your new choice. For instance, in the PostScript problem posed above, it is simple to go into the palette and adjust color 15, white, to match color 14 by clicking once in its Value slider. This is a global change, however; white no longer exists. Thus, if later on you are going to need pure white in a border area or a text box, you must now selectively replace color 15 with color 14 without altering the palette.

In DPaint, under the Picture menu, you can use the option "BG to FG" (background to foreground) in Change Color to solve the problem. Make the background color 15, and the foreground color 14. Clicking "BG to FG" makes the color change over the entire picture, but does not affect the Palette. You can fill or repaint any areas you now want pure white. You can also pick up an area as a brush, use "BG to FG" in the Brush menu to localize the change, and then stamp it down again on the picture. Changing the white areas pixel by pixel would have been possible, but tedious.

There are yet other ways to change colors. For instance, you can make a Stencil under the Effects menu. Select the color you wish to change, either from the Stencil window or directly from the screen. Click on Invert, then on Make. The color is now the only one that can be affected. Select a replacement color and paint with an appropriately sized brush. This is a good method to selectively change color within a complex area. In Dpaint III, the Stencil feature also allows you to pick up as a brush only those colors not locked by Stencil. This means you can create a Stencil and then use the brush tool and right mouse button to remove color from any area, replacing it auto-

The smart money is on these cleanup and correction tips when it comes to saving time and mess in making revisions to your work.

matically with the background color you have selected.

PROJECT CLEANUP

Let's explore other techniques as I describe the steps of a specific cleanup situation in the accompanying Iceland map illustration. Using Digi-View in Lo-Res Overscan mode, I captured a black-and-white image from a postcard map and then loaded it into DPaint for cleanup. Working in 16-color Lo-Res allowed me to manipulate large areas of the screen. I used "BG to FG" to change all white in the picture to the next darker shade. I then made the vacant Palette position blue for good visibility. Under Effects, I selected Freeze Background, and using a small blue brush, I traced around the edges of the map. With the + and − keys, I sized the brush up and down to get into fjords or cover broader areas of coast. When I made mistakes, Background Freeze allowed me to erase back to the original map with the right mouse button. I also kept my left hand on the keyboard, using the U key frequently until I was happy with a line. When the outline was complete, I unfroze the background.

Selecting Fill and using blue as the background color, I filled the ocean while holding down the ALT key. In DPaint III, this allows fill to cover all colors until it reaches the boundary of the current background color. In one move, all the black-and-white digitized dither was replaced with blue. Selecting gray as foreground color, I picked up the entire map from the background with the Brush tool and then pressed SHIFT-K to clear the screen to blue. When I hit F2, Color mode, the digitized map became a clean silhouette in the foreground color, which I then stamped down in the ocean.



The finished map of Iceland above began as an ordinary black-and-white postcard illustration with little detail.

I then adjusted the vacant Palette positions to more useful colors, making the map light green. With foreground green and background blue, I used the postcard for reference and touched up details, using both mouse buttons and Magnify when needed. Selecting a darker green foreground color, I removed the map from the ocean with the right button and hit F2 again to make the entire map a dark green brush. I extruded the map from lower right to upper left with the straight line tool "v." Without moving the mouse, I hit F1 to restore the brush to its original color and stamped it down in place over the extrusion.

After saving the result for safety, I went to Screen Format to switch to Hi-Res Overscan in order to add text. After DPaint stretched the image to the new format, I typed the title. Text always looks better in Hi-Res, but I worked on the actual map in Lo-Res so that I could cut large brushes.

Feeling at ease with a variety of cleanup techniques let me finish the project neatly and quickly. Putting the time to good use, I was able to wash the jelly off the cat. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope.

Scripts For Success Part 2

They cast their characters and gave you the intro last month. Now our AmigaDOS directors will set you the task of learning your "scripts"—and discovering the powerful work they can do when you add more complex parameters.

By Mark L. Van Name and Bill Catchings

IN THE FIRST installment of our series, we discussed how to create and execute script files. The sample we gave, however, provided only a way to avoid typing a fixed set of commands over and over. This month we will show you how you can make your scripts much more powerful by letting them work on many different sets of files and input options. You add this power by defining parameters.

A parameter is a placeholder that you use instead of a fixed filename or other string. You declare a parameter with the special script-file statement

```
.KEY parameter_name
```

which you can also abbreviate as

```
.K parameter_name
```

This statement should be the first line in the script. You can then use the parameter anywhere in the script. For example, to create a simple script, BACKUP, that makes a copy of any file, you need only the statements

```
.KEY file
COPY <file> <file>.BAK
```

Notice the < and > bracket characters that surround file. You must place them around the parameter's name every time you use that name in the script except in the initial .KEY statement.

When you execute the script, the EXECUTE command replaces the parameter with an actual value that you supply as the script's argument, just as you would give an argument to any AmigaDOS command. To run BACKUP on the file my_data, enter

```
EXECUTE BACKUP my_data
```

The result will be a backup file, my_data.BAK.

One is Fun, But Let's Pour on More

In many cases, a single script parameter may not be sufficient to perform all the operations you want your script to accomplish. For example, you may wish to control the disk on which BACKUP places the .BAK copy of the file. Fortunately, a script can have many parameters. Just list them, with commas between them, on the .KEY statement, as in

```
.KEY file,disk
COPY <file> <disk>:<file>.BAK
```

Do not leave a space between the parameters you define. If you do, when you EXECUTE the script you will get the message

```
EXECUTE: Parameters unsuitable for
    key "file, disk"
```

(where the string in quotes will be the text of your .KEY statement.) If you have more than two parameters, as in

```
.KEY p1,p2,p3
```

and you leave a space between the second and third, EXECUTE will never see the third parameter—an error that obviously can hurt your script file.

Regardless of how many parameters you define, they must all appear in the same .KEY statement. If you try to EXECUTE a script with two or more .KEY statements, you will get the error message

```
EXECUTE: More than one K directive
```

You must, of course, supply an argument for each parameter. EXECUTE then matches your arguments to the parameters. There are two ways to link ►

THE **AAMIGA** CENTER

Formerly The 64 Store

Call Toll Free ORDERS ONLY

1-800-388-2700

10 AM To 6PM Mon. thru Sat.

256K x1 100 NS CHIPS	3.30
3-D POOL	21.95
A-MAX	141.00
ACAD TRANSLATOR	141.00
A-TALK III	64.95
ADRUM II	46.00
AIR DRIVE - 3.5" INT	149.95
AMI EXCHANGE	CALL
AMIGA +	CALL
AMIGA BASIC I/O - DISK	9.95
AMIGA BASIC I/O - BOOK	16.25
AMIGA DRIVES I/O - DISK	10.00
AMIGA GRAPH. STARTER KIT	52.00
AMIGA 3D GRAPHICS	13.00
AMIGA DRIVES IN & OUT	21.00
AMIGA 3D GRAPHICS DISK	9.50
AMIGADOS TOOLKIT	36.00
AMIGATOSH DISK DRIVE	201.00
ANIMOTION	32.50
ANTIC	CALL
AQUA VENTURA	CALL
ARCHIPELAGOS	24.95
AREXX USERS MANUAL/DISK	32.50
ARTURA	26.00
B.A.D. DISK OPTIMIZER	32.50
BAAL	18.75
BARS & PIPES - MUSIC	**CALL**
BATTLE SQUADRON	24.95
BLOCKOUT	CALL
BLOOD MONEY	24.95
BOING MOUSE	104.95
BROADCAST TITLER 2.0	179.00
C-VIEW CHROMA LUMA	29.75
C-VIEW RGB TO COMPOSITE	29.75
C.LTD 502 ZERO KB	93.50
CALAGARI	156.50
CHESSMASTER 2000	29.00

WE WILL MATCH ANY ADVERTISED PRICE

CHESSMASTER 2100	31.00
DARK CENTURY	CALL
DELUXE PAINT III	90.00
DIGI - PAINT 3	60.00
DIGI - VIEW GOLD	128.00
DIGI - WORKS 3D	93.75
DIRECTOR	42.10
DIRECTOR TOOLKIT	24.95
DOS 2 DOS	34.25
DOUBLE DRAGON II	CALL
DR. T's COPYIST PRO	170.00
DR. TERM PRO	62.50
DRAGON'S LAIR II	CALL
DUNGEON MASTER	24.95
DUNLAP UTILITIES	49.95
EXCELLENCE	159.00
EYE AT HORUS	24.95
FALCON	29.00
FANTAVISION	41.25
FEDERATION	37.50
FIENDISH FREDDY'S	31.25
FLIGHT SIMULATOR	31.25
FRAME GRABBER	540.00
GVP 030 BOARD	2999.00
HAWIIAN ODYSSEY	CALL
HEROS' OF THE LANCE	27.50
HUNT FOR RED OCTOBER	21.95
INDIANA JONES (ARC)	27.50
INDIANA JONES (ADV)	CALL
INFESTATION	CALL
IT CAME FROM THE DESERT	33.50
KILLING GAME SHOW	CALL
KNIGHT FORCE	28.00
LEISURE SUIT LARRY II	31.25
LICENCE TO KILL	24.95
LOST DUTCHMAN MINE	CALL
MAC ROM CHIPS	139.00

OVER 1700 ITEMS AVAILABLE

MAC-2-DOS	93.50
MAGELLAN	121.95
MASTER PIECE FONTS	157.00
MENACE	18.75
MIGHTY NERD	32.25
NEVER MIND	CALL
NEUROMANCER	CALL
OMEGA	29.00
OMNI PLAY BASKETBALL	34.25
ONLINE PLATINUM	49.75
OP: COUNTER STRIKE	15.50
OPTICKS	**109.00**
P40 PURSUIT	28.00
PAGEFLIPPER PLUS FX	86.25
PAGESTREAM	124.95
PANASONIC KXP1124 PRN.	CALL
PEN PAL	89.00
PHOTON PAINT 2.0	93.75
PHOTON VIDEO CELL ANIM	93.75
PLANET OF LUST	24.95
POPULOUS	33.00
POPULOUS DATA DISK	14.95
PRO WRITE 2.5	67.98
PROFESSIONAL DRAW	124.95
PROFESSIONAL PAGE	237.50
PROGEN GENLOCK	449.00
PRO-MIDI SOUNDSCAPE	93.75
QIX	21.95
QUARTERBACK	37.50
RAMBO III	21.95
RF MODULATOR	41.00
RVF HONDA	24.95
SAFE SKINS	22.50
SCANLOCK	885.00
SCULPT ANIMATE 4D JR.	92.95
SCULPT ANIMATE 4D	349.00
SCULPT 3D	49.95

Commodore HARDWARE - CALL

SCULPT ANIMATE 4D	349.00
SCULPT 3D XL	110.00
SHADOW OF THE BEAST	31.25
SHINOBI	CALL
SHOOT 'EM UP CONST. SET	12.50
SHUFFLE PUCK CAFE'	27.50
SIM CITY	31.25
SPEED BALL	245.95
SPIRIT 501 2MB/0K	269.00
SPIRIT INBOARD 1000	216.00
SPIRIT INBOARD 500	236.00
STAR NX 2400 24 PIN PRN.	337.00
SUPERGEN	689.95
SUPERPLAN	93.75
SUPRA 2400 EXT. MODEM	119.00
SUPRA 2400 INT. MODEM	125.00
SWORDS OF TWILIGHT	34.35
SYNTHIA PROFESSIONAL	247.50
TARGHAN	24.95
TAX PLAN	21.95
TEENAGE MUTANT NINJA	CALL
THE WORKS PLATINUM	184.50
THEIR FINEST HOUR	CALL
TIMES OF LORE	24.95
TRUMPCARD - 2000	CALL
TRUMPCARD - 500	CALL
TURBO SILVER	125.00
VIDEOSCAPE 3D 2.0	125.00
VISUAL AURALS	106.75
WELLTRIS	CALL
WHERE IN THE WORLD IS C.S.	28.75
WICO TRACKBALL	39.95
WILD STREETS	
WORD PERFECT	161.00
WORLD TOUR GOLF	21.95
X-SPECS 3D	69.97
X-10 POWERHOUSE S'WARE	27.00

Commodore's First Authorized Amiga Dealer In The USA !!

The *AAMIGA* Center
5920 Roswell Road
Atlanta, GA 30328

TERMS: Software S/H USA $3.95 per item, Hardware S/H by quote; Minimum order $30.00: Cashiers check, Money Order, Visa, MasterCard & Discover welcome. No credit card fee; NO COD's, We ship UPS ground, Add $6.00 for 2nd day air per item. Allow 3 weeks for personal checks; Return authorization number required for defective products. (Call (404) 252-1235); Only like product will be exchanged; 20% restocking fee on non defective return goods: Overseas shipping available; Georgia residents add sales tax.

Tech Support: (404) 252-1235 Customer Service: (404) 252-1233

AW - 12/89

Circle 61 on Reader Service card.

More than just a Disk Copier!

Project D is the most powerful Amiga disk copier ever created. It allows you to protect your software investment by making backup copies of your personal, public domain, and commercial software (it even copies copy-protected software!). No other copier allows you to copy to all four disk drives at the same time. No other copier keeps a list of the errors that happened during the last backup. No other copier lets you set the starting and ending tracks of a backup. No other copier has been continuously supported for the past two years, and Project D is not and will never be copy protected in any way!

Project D was designed with the future in mind. We offer registered owners inexpensive, frequent upgrades to our parameter file so you can backup your latest software without having to wait months for new 'Brain Files'.

Project D includes three other useful utilities as an added bonus! The **OmniCopy** Tool can be used to make backups of software that you have for other computers (like MS-DOS or Atari ST). **EditorTool** allows you to examine and edit AmigaDOS disks all the way down to the MFM level. **CatalogTool** is a powerful automatic disk cataloging utility that lets you maintain detailed lists of your software library.

Compare the features of Project D to the competition and you will see that Project D is quite simply the best disk copier package money can buy!

All these great features for only **$49.95** and that includes shipping and handling!

Available at fine Amiga dealers everywhere!

To order direct, call **(602) 497-6070**
or send check or money order to:
Fuller Computer Systems, Inc.
P.O. Box 9222
Mesa, AZ 85214

See How Project D Stacks Up Against The Competition

	Project D	RawCopy
Duplication Speed	80 Sec.	100 Sec.
Easy To Understand User Interface	YES	NO
Upgradable With Parameter Files	YES	NO
Catalog Utility Included	YES	NO
Copies other formats	YES	NO
Price	**$49.95**	**$59.95**

Don't settle for a mere Raw Copier when you can have a completely refined, powerful, acurate and original Disk Utility System that is really Well Done!

Just see what the critics have to say:
"I consider Project D to be akin to a well equipped luxury automobile; it gives a smooth ride and lots of easy to use operations."
Denny Atkin - AmigaWorld (Feb. 1989, pp. 92-94)

"The user interface is wonderful..." Info Rated: 4+ stars
David Martin - Info Magazine (Sept/Oct 88, p. 16)

"Project D is by far the most comprehensive disk-utility package available for the Amiga today."
Mitchell Lopes - Editor, Robo City News

Project D: The Disk Copier... Plus!

 Dealer Inquiries Invited Arizona residents please add 6.5% sales tax.

Circle 183 on Reader Service card.

arguments with their corresponding parameters. The first is by position: EXECUTE matches the first argument to the first parameter in the .KEY statement, the second argument to the second parameter, and so on. In our new BACKUP script, the command

EXECUTE BACKUP foo DF0

matches foo to file, and DF0 to disk. (Note that you need not enter a colon after the disk name as you would normally do with other commands; the colon is in the script.)

You can also use the names of the parameters to identify their arguments on the command line, as in

EXECUTE BACKUP file foo disk DF0

or

EXECUTE BACKUP disk DF0 file foo

When you use parameter names, you can list the arguments in any order.

You can also mix these two methods. For example, to give the disk name first, enter

EXECUTE BACKUP disk DF0 foo

EXECUTE matches DF0 to the parameter disk because you used that parameter's name. It then matches the other argument, foo, to the remaining parameter, file. In general, EXECUTE first matches arguments with preceding parameter names to those parameters. It then matches the remaining arguments to the remaining parameters by position.

No Arguments from Us

Although we have stated so far that you must always supply an argument for every parameter, this is not entirely true; technically, you can omit any arguments you want. When you do, EXECUTE replaces that parameter in the script file with the null string (" ") everywhere it finds that parameter's name. The problem is that when you omit an argument, errors can easily arise. Leave out either argument to our BACKUP script, for example, and the COPY command will fail and give you the error messages

Bad arguments
copy failed returncode 20

Some scripts, though, will work perfectly well without one or more of their arguments. Consider a simple script, NEW DISK, that copies a file to another disk, optionally with a new name for that file:

.KEY file,disk,new_name
COPY <file> <disk>:<new_name>

Run it with

EXECUTE NEW_DISK my_file DF0 fred

and it copies my_file to DF0:fred (the file named fred on DF0:). Run it without the third argument, as in

EXECUTE NEW_DISK my_file DF0

and it copies my_file to DF0: retaining the filename my_file on that disk.

You should also be careful to type parameter names correctly. If you get a parameter name wrong, EXECUTE will assume that the name is an undefined parameter and replace it with the null string. Thus, if we wrote NEW_DISK as

.KEY file,disk,new_name
COPY <file> <disk>:<newname>

(inadvertently substituting <newname> for <new_name> on the second line), EXECUTE would replace <newname> with the null string and always copy <file> to <disk>: without a new name, regardless of the third argument.

Two special "switches" let you control whether you must supply an argument for a parameter. These switches follow the parameter's name on the .KEY line. The /a switch makes a parameter mandatory. To force users of NEW_DISK to supply at least the first two arguments, change the .KEY statement to

.KEY file/a,disk/a,new_name

(Again, remember not to leave any spaces between the parameters.) If you try to EXECUTE NEW_DISK without supplying either of the first two arguments, you will get the error message

EXECUTE: Parameters unsuitable for key "file/a,disk/a,new_name"

On the other hand, the /k switch makes the parameter optional; if you do supply an argument for it, however, you must use the parameter name before that argument. Thus, if the .KEY statement in NEW_DISK is

.KEY file/a,disk/a,new_name/k

then to give a new_name argument you must run it with a line such as

EXECUTE NEW_DISK my_file DF0 new_name fred

If you omit the parameter new_name, you will get the familiar message

EXECUTE: Parameters unsuitable for key "file/a,disk/a,new_name/k"

Greater Value—By Default

It is sometimes useful to give a missing optional parameter a value other than the null string. You can define default values for such parameters in two ways.

The first is with the .DEF statement, as in

.DEF new_name "fred"

This statement makes EXECUTE use the value fred whenever you run NEW_DISK without a new filename. Notice the quotes around the default value; always use them in .DEF statements. You need one .DEF statement per parameter. You can have more than one .DEF for a single parameter, but the value in the first .DEF is always the one assigned to the parameter. Thus, the two lines

.DEF new_name "fred"
.DEF new_name "joe"

are equivalent to the single line

.DEF new_name "fred"

The other option is to define a default value when you use a parameter. You do so by following the parameter's name with a dollar sign ($) and then the default value. In the COPY statement in NEW DISK, we could enter

COPY <file> <disk>:<new_name $fred>

When you use this method, do not put quotes around the default value.

You can mix these two styles if you want, but the first .DEF statement will always define the default value. It will override any later .DEF statements or <parameter_name$default_value> usages for that parameter. And, of course, any argument that you supply for a parameter will override the parameter's default value.

Additionally, there is one special way to use the dollar sign that has nothing to do with default values. EXECUTE will ►

CHOOSE THE RIGHT PATH! INVEST IN THE SUPERBASE SYSTEM

Superbase™ PERSONAL

AS EASY TO USE AS A VCR

- Fully multi-file relational power
- VCR style control panel gives easy access to data
- 3 ways of viewing data to cover entry, review and comparison
- Set up and change file definitions quickly using point and click controls
- Define and print multi-file reports with Superbase Query function
- Include images, sound and text as external files within your database record

Superbase Personal: Multi-file relational power at a flat-file price

NEW LOW PRICE

$79.95

UPGRADE PATH

Superbase™ PERSONAL 2

POWERFUL FILE MANAGEMENT WITH BUILT-IN TEXT PROCESSING

All the features of Superbase Personal PLUS

- Text Editor for creation of letters and documents; editing options include cut and paste
- Improved data handling facilities including batch entry of data and cross-file lookup
- Keyboard controls for easy editing
- Time field type and additional validation options
- Mail-merge facility for producing personalized letters
- Built-in telecommunications for swift data transfer

Superbase Personal 2: Full-featured file management at your fingertips

". . . offers more power and sophistication than do most non-programmable databases. . .

"Personal 2's LOOKUP command. . . gives the program a decided advantage over most of its competitors."
AmigaWorld July '89

$149.95

UPGRADE PATH

Superbase™ PROFESSIONAL

THE MOST POWERFUL DATABASE FOR THE AMIGA COMPUTER

- Database management language (DML), Superbase's own 4GL programming language. Over 250 high-level commands, and other powerful features such as arrays, looping constructs and branching
- Create sophisticated custom programs and applications
- Report generator for ease of set-up and output of reports
- Intelligent Forms Editor enables you to generate multi-file applications without the need for programming
- Automatic transaction processing lets you reproduce standard business forms.
- Extensive programmable telecommunications facilities

Superbase Professional: World Class programmable database that's easy to learn and use!

Version 3

$349.95

SUPERBASE PROFESSIONAL AND SUPERPLAN NOW SUPPORT ARexx

Superplan™

SPREADSHEET • BUSINESS GRAPHICS • TIME MANAGEMENT

- Full featured spreadsheet environment that tracks time, resources and money to give a complete picture of your project plans
- Print wall planning charts, Gantt charts; do critical path analysis
- Graphics facility to visually portray your data in over 100 different graph styles and options
- Sideways printing, full color output to extensive range of printers and plotters
- Fully programmable, Lotus 1-2-3 and dBase file compatible
- Works stand alone or with Superbase to provide superb productivity environment

Superplan: The Fourth Dimension

"The program's abilities are limited only by your imagination and ingenuity, and you will likely never outgrow Superplan's capacity."
AmigaWorld August '89

$149.95

Precision Incorporated
London • Dallas • Munich

Precision Incorporated
8404 Sterling Street, Suite A
Irving, TX 75063
Tel: (214) 929-4888. Fax: (214) 929 1655

Available from your dealer or call Precision
Tel: (214) 929-4888

Circle 187 on Reader Service card.

Precision Incorporated acknowledges all trade marks

replace the string <$$> with the current CLI's number. That number can be handy for such things as unique temporary filenames, pipes, and so on.

Customized Scripts

As with so many other things, AmigaDOS lets you customize your script-file features. If you want to use an angle bracket (<, >) or a dollar sign in a string in a script, three dot (.) commands allow you to change the characters EXECUTE uses for those functions:

```
.BRA
.KET
.DOLLAR
```

(The first two get their names from the BRAcKET characters they define.) By default, EXECUTE acts as if you had entered the commands

```
.BRA <
.KET >
.DOLLAR $
```

Here you must insert a space between the command name and the character you are defining. Also, the dot (.) must be the first character on the line.

You can change these characters, as in

```
.BRA [
.KET ]
.DOLLAR &
```

With these changes, our previous default-parameter value example would be

```
COPY [file] [disk]:[new_name&fred]
```

You can use a . with no command name to enter comments in a script, as in

```
. This is a comment.
```

You must, however, leave one or more spaces after the . and before the comment's text, or you will get the error message

```
EXECUTE: Invalid directive
```

You can also follow a . with a new line to put a blank line in a script.

Although these last two features might seem useless at first, they can prove helpful. A script is a kind of program. While many scripts are simple, some may get quite complex. By using comments and blank lines, you can document your scripts and make them more readable, just as a good programmer will document code in any language.

We said previously the .KEY statement should be the first statement in your script. While that is generally good practice, it is not an absolute requirement. What is mandatory, however, is that if you want to use parameters in a script, some dot command must be the first line in that script. Also, the .KEY command must precede all .DEF commands.

We have now covered how to enter and execute scripts, and ways to pass them parameters. In the third and final part of this series, we will explore several special CLI script commands that allow you to make choices based on the values of parameters. Until then, in writing script files, as in any kind of programming, there is no substitute for practice—so get to it! ■

Bill Catchings and Mark L. Van Name are contributing editors to AmigaWorld. *Write to them at 10024 Sycamore Rd., Durham, NC 27703.*

Creative Computers

ORDERS ONLY: 800-872-8882 U.S. ORDERS ONLY (including CA) **213-214-0000** CUSTOMER SERVICE OR ORDER STATUS

VISA, MasterCard, American Express, Discover, International Phone and Mail Orders, Educational, Corporate and Aerospace Purchase Orders Accepted.

4453 Redondo Beach Blvd., Lawndale, CA 90260 Mon.-Sat. 8 a.m.-6 p.m. PST FAX: 213-214-0932

BEFORE YOU BUY A HARD DRIVE-READ THIS!

You can get a 40 Meg or 80 Meg Quantum drive with 11ms access and a GVP 25Mhz 68030 card/hard disk controller which transmits data to the hard drive in 32-bit chunks (other controllers are limited to 16-bit wide data), all for a few hundred dollars more than a regular drive! And, you save an expansion slot in the process! Plus, you can later upgrade the card to an A3001!!!

GVP 25Mhz '030+40Q $1295
GVP 25Mhz '030+80Q $1695
(Either of the above with 68882 processor—add $330)

HARDWARE

68020-12 CPU/PROCESS 170.00
68030-16/20 CPU/PROC. 570.00
68881 CRYSTAL OSSC 10.00
68881-16 MATH COPROC 200.00
68881-20 MATH COPROC 300.00
68882-20 MATH COPROC 500.00
68882-25 MATH COPROC 620.00
A MAX EMULATOR 149.95
A-MAX PACKAGE 429.00
AMAS MIDI SAMP /A1000 129.95
AMAS MIDI SAMPLER 129.95
AMERISTAR ETHERNET 799.00
AMI-X10 46.95
AMI-X10 W/HRDW 500/20 114.95
AMI-X10 W/HRDWR A1000 114.95
AMIGA MUSIC PACK 179.95
AMIGEN GENLOCK 139.00
AMPLIFIED SPEAKERS 84.95
APRODRAW 12X12 464.95
APRODRAW 12X12 W/CUR 499.95
APRODRAW 9X6 379.95
APRODRAW CURSOR 49.95
APRODRAW GENDER CHNGR 9.95
ASDG 0/8MB RAM CARD 299.00
AVATEX EFAX-88 699.00
CA-880 FLOPPY DRIVE 199.00
CANON SCANNER IX-12 1049.00
CHEETAH KEYBOARD 235.00
CMI MIDI 1 (EXT) 56.95
CMI MULTIPORT BOARD 195.95
COLOR SPLITTER 89.95
CSA DRAGSTRIP 549.00
CSA FASTTRACK ACCEL 699.95
CSI 2200 99.00
CSI 3100 SILENT DRIVE 159.00
CUTTING EDGE MAC DRIV 209.95
DESKJET 128K RAM CRTG 117.95
DESKJET PLUS PRINTER 749.95
DESKJET PRINTER 599.00
DIGI VIEW FOR A1000 143.95
DIGI VIEW GOLD 149.00
DUAL SERIAL BOARD 199.95
EASYL 1000 TABLET 369.00
EASYL 2000 TABLET 369.00
EASYL 500 TABLET 369.00
ECE MIDI 1000 48.95
ECE MIDI 500/2000 48.95
ESCORT 3.5HD CASE 123.50
ESCORT 48MB HDD A500 859.00
ESCORT A500 CNTRLR CALL
ESCORT A500 HD KIT 315.00
EXP-1000/1MB FOR A500 409.95
FATTER AGNUS 125.00
FLICK. FIX TO GENLOCK 39.95
FRAMEGRABBER 539.00
FUTURE SOUND 500 93.95
FUTURE SOUND A1000 129.95
GEN-ONE GENLOCK 739.00
IMG SCAN 500/2000 109.95
IMPRINT LIQUID LIGHT 399.00
INTRUDER ALERT 124.00
KICKSTART 1.3 ROM 39.95
LASERJET 2 RAM 1MB 419.95
LASERJET 2-D PRINTER 2995.00
LASERJET IIP PRINTER 1095.00
LASERJET SERIES 2 1749.00
LENS 16MM NO IRIS 23.95
LENS 16MM W/IRIS 66.25
LIVE! 1000 270.00
LIVE! 2000 349.00
LIVE! 500 319.00
MAC EPROMS 128K 149.95
MAGNI 4004 GENLOCK 1595.00
MAGNI 4010 CONTROLLER 299.99
MAXTOR LXT-100S HDD CALL
MICROB 8UP M.BRD SIMM 174.95
MICROB. 4X POP SIMM 74.50
MICROB. 8UP DIPP W/0K 174.95
MIDGET RACER 349.95
MIDI GOLD 500 64.95
MIDI GOLD INSIDER 68.47
MIDI INTERFACE CABLE 38.00
MINIGEN GENLOCK 194.95
MOUNTING BRACKET. HDD 19.00
NEC LC SILENT WRITTER 3195.00
NEC MULTISYNC 3D 750.00
NEC MULTISYNC IIA 650.00
NERIKI GENLOCK 1975.00
OKIMATE 20 W/PLUGPRT 249.00
OKIMATE PLUG N PRINT 79.95
OMEGA SAMPLER A1000 79.95
PAINTJET COLOR PRINT 1095.00
PANASONIC WV1410 225.00
PANASONIC WV1500 320.00
PC40 III 1795.00
PEOPLE METER 39.95
PERFECT SOUND 500/200 67.95
PERFECT SOUND A1000 67.95
PERFECT VISION - ALL 199.95
PRO RAM A2000 0/8MB 229.00
PRO RAM A2000 2/8 MEG 649.00
PRO SOUND DESIGNER 119.95
PROCESSOR ACCEL A1000 159.00
PROCESSOR ACCEL A2000 159.00
PROCESSOR ACCEL A500 159.00
PROGEN GENLOCK 399.00
QUANTUM 40-AT 599.00
QUANTUM 40MB HARD DRV 599.00
QUANTUM 80-AT 995.00
QUANTUM 80MB HARD DRV 995.00
RAM 1MBx1 -70 20.00
RAM 1MBx1 -80 DIPP 16.00
RAM 256Kx1 -12 DIPP 6.50
RAM 256Kx4 -80 DIPP 20.00
SOUNDSCAPE MIDI PACK 279.95
SPIRIT DELUXE MIDI 214.95
STAR NX 1000 PRINTER 195.00
STAR NX1000 RAINBOW 270.00
STARBOARD 2 A1000 0K 250.00
STARBOARD 2 A500 512K 425.00
STARBOARD 2 SCSI MOD 100.00
STARBOARD 2 UPPR DECK 59.95
STARBOARD SB2000 ADAP 59.95
STEREO SOUND SAMPLER 87.95
SUB SYSTEMS A500 FDD 149.00
SUPERGEN GENLOCK 699.00
SUPRA 2400 BAUD MODEM 149.00
SUPRA 2400 INT. MODEM 159.95
TOOLBOX A1000 ECE2110 170.00
TOOLBOX A1000 ECE2120 230.00
TOOLBOX A500 ECE 2520 230.00
TOOLBOX A500 EEC2510 170.00
TRUMP CARD SCSI A2000 170.00
VAULT 30MB HARD DRIVE 699.00
VAULT 40MB HARD DRIVE 799.00
VAULT 65MB HARD DRIVE 939.00
VCR, BROKSONIC 249.00
VI 2000 RF VIDEO INTF 79.95
VI 2000 VIDEO INTER. 69.95
VI 500 RF VIDEO INTRF 69.95
VI 500 VIDEO INTERF 59.95
VIDTECH SCANLOCK 949.00
X-SPECS 3D 99.95
XEROX 4020 PRINTER 1140.00
XEROX 4020 STARTER KT 156.00
ZOOM 2400 BAUD MODEM 139.95

GRAPHICS

3 DEMON 71.95
3D OPTIONS 32.46
ACAD TRANSLATOR 139.95
AEGIS DRAW 1.4 52.95
AEGIS DRAW 2000 181.95
ALOHA FONTS 1 12.95
ALOHA FONTS 2 12.95
ALOHA FONTS 3 12.95
ANALYTIC ART 37.48
ANIMAGIC 51.95
ANIMATE 3D 99.95
ANIMATION ROTOSCOPE 51.95
ANIMATOR'S APPRENTICE 189.95
ANIMATORS EDITOR 38.95
ANIMATORS EFFECTS 32.46
ANIMATORS MULTIPLANE 58.95
ANIMATORS STAND 32.46
ANIMOTION 62.95
ART COMPANION 19.95
ART GALLERY 1 & 2 25.95
ART GALLERY FANTASY 23.36
ASHAS CALLIGRA FONTS 58.95
BROADCAST TITLER 194.95
BUTCHER 2.0 25.95
C LIGHT 38.95
CAD PARTS 4 INTROCAD 16.50
CALIGARI CONSUMER 164.95
CALLIGRAPHER 84.95
CHROMA PAINT 51.95
CITYDESK COMPANION 19.95
CLIP ART (#1 THRU #8) (EA.) 12.95
COMIC SETTER 64.96
COMICSETTER FUNNYDATA 25.95
COMICSETTER HERO DATA 25.95
COMICSETTER SF DATA 25.95
DELUXE ART PARTS #1 21.95
DELUXE ART PARTS #2 21.95
DELUXE MAPS 16.95
DELUXE PAINT II/VIDEO 79.95
DELUXE PAINT III 99.95
DELUXE PHOTO LAB 99.95
DELUXE PRODUCTIONS 139.95
DESIGN DISK FOR TURBO SILVER, SCULPT ANIMATE OR VIDEOSCAPE (EA.) 22.74
DESIGN 3D 64.95
DESKTOP ARTIST 18.95
DIGI PAINT 3 64.95
DIGIWORKS 3D 84.95
DIRECTOR, THE 45.95
DIRECTORS TOOLKIT 24.95
DOUG'S MATH AQUARIUM 51.95
DOUGS COLOR COMMANDER 19.46
DOUGS MATH AQUAR. LIB 9.95
EXPRESS PAINT 3.0 90.95
FANCY 3D FONTS 46.95

BREAKING THE SPEED & PRICE BARRIERS!!

GVP 25Mhz 68030 board .... $ 799
GVP A3001 — 25Mhz 68030/68882 + 4 Megs 0-wait state 32-bit RAM + 32-bit blazing fast hard drive controller $2495
Also available with Quantum 11ms hard drives CALL FOR PRICES.

FANCY 3D FONTS SILVER 51.95
FANTAVISION 42.95
• FLOOR PLAN LIB. AEGIS 59.95
• FLOOR PLAN LIB. IFF 39.95
FOCUS VIDEO 119.95
FONT WORKS 64.95
FONTS AND BORDERS 22.95
FOUNDATION/FRAME LIB 59.95
GALLERY 3-D 51.95
GOLD DISK FONT SET #1 21.85
GRABBIT 20.95
GRAPHICS STARTER KIT 64.95
HAM MANDEL 25.95
HOME BUILDERS CAD 129.95
HOMETOWN USA 25.95
• ICON MAGIC 49.95
• INT. DESIGN LIB AEGIS 59.95
• INT. DESIGN LIB. IFF 39.95
INTERCHANGE 32.46
INTERCHANGE CONVER 16.95
INTERCHANGE TSLV MODL 12.96
INTERFONTS 77.95
INTROCAD 49.95
INVISION 139.95
JET SET FONT SET 32.50
KARA FONTS HEADLINES 51.95
KARA FONTS HEADLINES2 47.95
KARA FONTS SUBHEADS 47.95
• LIGHT BOX 119.95
LIGHTS CAMERA ACTION 59.95
LION'S CALLIGRA FONTS 58.95
MASTERFONTS 3D VOL 1 24.95
MASTERPIECE FONTS 167.95
MODELER 3D 65.00
MOVIE SETTER 64.95
MY PAINT DATA DISK #1 19.95
NEWSLETTER FONTS COLR 29.95
• OPTICKS 69.95
PAGE FLIPPER 31.23
PAGE FLIPPER PLUS F/X 103.95
PAGE RENDER 3D 94.95
PAGE STREAM FNTS 1-5 (EA.) 25.95

NEW-PROFESSIONAL PAGE 1.3



A SPECIAL LIMITED TIME OFFER
Exclusively from CREATIVE COMPUTERS

For a limited time only, Pagestream owners can upgrade to the best in DTP software from Gold Disk at the very special price of $150!!! Version 1.3 now offers outline font technology giving you results close to Postscript quality from alomst *any* printer (in addition to standard Postscript!) The new AGFA/Compugraphic font technology gives you access to the world's largest supplier of fonts. Call toll-free now to take advantage of this great offer—only $150. Do it now before stock runs out! This special offer is too good to miss and CREATIVE COMPUTERS IS THE OILY DEALER OFFERING IT!

PAGESTREAM FNTS A-B (EA.) 25.95
PERFORMER (ELAN) 38.95
PHOTON CELL ANIMATOR 99.95
PHOTON PAINT 2.0 99.95
PHOTON PAINT EXP. DSK 19.95
PHOTON TRANSPORT CONT 195.95
PHOTON TRANSPORTER 194.95
PIXMATE 45.95
PRINT MASTER ART #1 18.73
PRINT MASTER ART #2 18.73
PRO FONTS 1 22.95
PRO FONTS 2 24.95
PRO FONTS VOL I 22.95
PRO FONTS VOL II 22.95
PRO VIDEO GOLD 194.95
PRO VIDEO PLUS 184.95
PROFESSIONAL DRAW 129.95
PURE COLOR 16.95
RESEP 54.95
SCULPT 3DXL 99.95
SCULPT ANIMATE 4-D 349.95
SCULPT ANIMATE 4-D JR. 89.95
SPRITZ 49.95
STRUCTURED CLIP ART 38.95
STUDIO FONTS V1 29.95
TALESPIN 32.46
TALKING ANIMATOR, THE 39.00
TATE FONTS 51.95
TERRAIN FOR TURBOSILV 19.95
TURBO SILVER 3.0 129.95
TURBO SILVER MODULES 19.95
TV SHOW 64.95
TV TEXT 59.95
VIDEO EFFECTS 3D 129.96
VIDEO PAGE 89.95
VIDEO VISIONS 1 12.95
VIDEO VISIONS 2 12.95
VIDEOSCAPE 3D 124.95
VIDEOTITLER 99.95
XCAD DESIGNER 94.95
XCAD PROFESSIONAL 324.95
ZOETROPE 89.95
ZUMA FONTS 1-4 PACK 68.95
ZUMA FONTS VOL. 1-4 (EA.) 22.95

MUSIC

AUDIOMASTER 37.48
AUDIOMASTER II 64.95
DELUXE MUSIC 2.0 69.95
DR. T'S 4-OP ED/LIB 92.95
DR. T'S BACH SONGBOOK 17.95
DR. T'S CASIO V21 92.95
DR. T'S COPYIST 155.38
DR. T'S COPYIST II 159.95
DR. T'S CZ CARTRIDGE 61.95
DR. T'S CZ RIDER 92.95
DR. T'S D-110 ED/LIB 92.95
DR. T'S D-50 ED/LIB 92.95
DR. T'S DR. DRUMS 17.95
DR. T'S DR. KEYS 17.95

The LARGEST International Dealer of AMIGA Products in the WORLD!

OVER 1500 ITEMS
The best NEW products • The LOWEST PRICES
NEW PRODUCTS ARRIVE DAILY. CALL FOR UNLISTED ITEMS.

DR. T'S DX7 ED/LIB 92.95
• DR. T'S E-MU PROTEUS 92.95
DR. T'S ESQ-APADE 1 92.95
DR. T'S KAWAI K-1 92.95
DR. T'S KAWAI K-5 92.95
DR. T'S KCS 154.95
DR. T'S KCS LEVEL II 219.95
DR. T'S LEXICON 92.95
DR. T'S M-1 ED/LIB 92.95
DR. T'S MATRIX-6 92.95
DR. T'S MIDI REC. STD 43.50
DR. T'S MT-32 ED/LIB 92.95
DRUM STUDIO 32.46
DYNAMIC DRUMS 49.95
DYNAMIC STUDIO 139.00
FRACTAL MUSIC 12.95
INSTANT MUSIC 1.2 17.95
LIFE CYCLES AMIGA 19.46
M INTELLIGENT MUSIC 139.95
MASTER TRACKS PRO 259.95
MIDI MAGIC 97.95
PRO MIDI STUDIO 130.95
SAMPLEWARE - DIGITAL 16.95
SAMPLEWARE - GRAB BAG 16.95
SAMPLEWARE - ORCHESTR 16.95
SAMPLEWARE - ROCK 16.95
SONIX 49.95
SOUND OASIS 64.95
SOUNDLAB 209.95
SOUNDQST DX7-2 MASTER 109.95
SOUNDQST GENERIC MSTR 77.95
SOUNDQST MT-32 MASTER 92.95
SOUNDQST TX802 MASTER 92.95
SOUNDQST TX81Z MASTER 92.95

AMAX MAC EMULATOR FOR THE AMIGA!

AMAX Emulator $139
Mac 128K EPROMS $149
AMIG-a-TOSH 880K floppy disk drive $179
COMPLETE PACKAGE!
All the above only $429

SOUNDQUEST CZ MASTER 92.95
SOUNDQUEST D10 MASTER 92.95
SOUNDQUEST D10/20/110 102.95
SOUNDQUEST D110 MASTR 92.95
SOUNDQUEST D50 MASTER 92.95
SOUNDQUEST DX7 MASTER 109.95
SOUNDQUEST ESQ/ESQ-80 92.95
SOUNDQUEST FB/01 MSTR 97.95
SOUNDQUEST K-1 MASTER 92.95
SOUNDQUEST M-1 MASTER 119.95
SOUNDQUEST TEXTURE 92.95
SOUNDQUEST TEXTURE II 159.95
SOUNDSCAPE UTIL. I 35.95
SOUNDSCAPE UTIL. II 42.95
SOUNDSCP PATTERN SPLT 35.95
SOUNDTRAX VOL 1 14.95
SOUNDTRAX VOL 2 14.95
STUDIO MAGIC 64.95
SYNTHIA 64.95
• SYNTHIA PROFESSIONAL 249.95
• ULTIMATE SOUNDTRACKER 25.95
ZOUND SOUNDS VOL 1 21.95

EDUCATION

ADVENTURES OF SINBAD 32.46
AESOP'S FABLES 19.95
ALGEBRA I 36.95
ALGEBRA II 32.46
ALL ABOUT AMERICA 38.95
ANIMAL KINGDOM 32.46
BASIC GRAMMER SERIES 19.46
BOOMERAID 32.46
CALCULUS 36.95
CHICKEN LITTLE 19.95
CLAS 84.95
CROSSWORD CREATOR 34.95
DECIMAL DUNGEON 32.46
DES CARTES 22.95
DESIGNASAURUS 32.46
DINOSAUR DISCOVERY KT 27.95
DINOSAURS ARE FOREVER 25.95
DISCOVER ALPHABET 14.95
DISCOVER CHEMISTRY 14.95
DISCOVER HISTORY/GEO 14.95
DISCOVER MATH 14.95
DISCOVER NUMBERS 14.95
DISCOVERY GEOGRAPHY 12.97
DISCOVERY HISTORY 12.97
DISCOVERY LANG. 1 12.97
DISCOVERY MATH 1 12.97
DISCOVERY MATH CONCPT 12.97
DISCOVERY SCIENCE 12.97
DISCOVERY SOCIAL STDY 12.97
DISCOVERY SPELLING 1 12.97
DISCOVERY SPELLING 2 12.97
DISCOVERY TRIVIA 1 12.97
DISCOVERY TRIVIA 2 12.97
DISCOVERY W/MATH 25.00
DISCOVERY W/SPELLING 25.00
DISCOVERY W/TRIVIA 25.00
DISCRETE MATHEMATICS 36.95
FIRST LETTERS & WORDS 27.95
FIRST SHAPES 27.95
FRACTION ACTION 32.46
GRADE MANAGER 58.95
GREAT STATES II 25.95
INTELLITYPE 35.95
KIDTALK 27.95
KINDERAMA 31.95
LEARNING CURVE 51.95
LEARNING THE ALPHABET 21.95
LINKWORD DUTCH 20.55
LINKWORD FRENCH 20.55
LINKWORD GERMAN 20.55
LINKWORD GREEK 20.55
LINKWORD ITALIAN 20.55
LINKWORD PORTUGUESE 20.55
LINKWORD RUSSIAN 20.55
LINKWORD SPANISH 20.55
LOTTO PROGRAM 19.95
MAGICAL MYTHS 31.95
MAGICIANS DUNGEON 22.95
MASTERING CLI 25.95
MATCH IT 25.95
MATH MAGICIAN 27.49
MATH TALK 27.95
MATH TALK FRACTIONS 27.95
MATH WIZARD 32.46
MATH-AMATION 64.95
MAVIS BEACON TYPING 34.95
MOTHER GOOSE 19.95
MUSIC STUDENT 37.95
PERFECT SCORE 54.95
PHOTOSYSNTHESIS 97.95
PLANET PROBE 19.95
PRE CALCULUS 36.95
PROBABILITY THEORY 36.95
PUNCTUATION SERIES 19.46
PUZZLE STORYBOOK 27.95
QUIZAM 23.10
REACH FOR THE STARS 27.95
READ & RYME 31.95
READ-A-RAMA 31.95
ROCK CHALLENGE 25.95
RR AESOP'S FABLES 19.95
RR LITTLE RED HEN 19.95
RR THREE LITTLE BEARS 19.95
RR THREE LITTLE PIGS 19.95
RR UGLY DUCKLING 19.45
SMOOTH TALKER 33.95
SPELLBOUND 25.95
SPELLER BEE 27.95
SPELLING IMPROVEMENT 25.95
TALES FROM ARABIAN NT 32.46
TALKING COLORING BOOK 18.95
TRANSCONT. RAILROAD 25.95
TRIGONOMETRY 36.95
TRUEBASIC ARITHMETIC 45.96
TYPING TUTOR WRD INV 22.95
UNCLE D CONSNDTRATION 25.97
UNCLE D'S DATA DISK 1 19.95
VOCAB. IMPROV. TUTOR 19.46
WHERE IN THE WORLD 31.95
WORD MASTER 32.46

PROGRAMMING/UTILITIES

64 EMULATOR 2/A1000 49.95
64 EMULATOR 2, THE 49.95
AC BASIC 129.00
AC FORTRAN 199.00
ACCESS 64/A1000 57.29
AM KIT 25.95
AMI ALIGNMENT SYSTEM 32.46
AMIGA DOS TOOLBOX 38.95
AMIGA LISP 59.95
ANTI-VIRUS 25.96
AREXX 32.95
ASSEMPRO 71.95
ATALK III 64.97
ATREDES (BBS) 97.95
AZTEC C PROFESSIONAL 129.95
BAUD BANDIT 29.95
BBS PC 99.95
BENCHMARK C LIBRARY 64.95
BENCHMARK IFF LIBRARY 64.95
BENCHMARK MODULA-2 129.95
BENCHMARK SIMPLE LIBR 64.95
BOARD MASTER 64.95
CAPE 68K ASSEM 2.0 58.47
CROSS DOS 19.95
DEMONSTRATOR, THE 21.95
DEV DISK - ASSORTED 7.95
DEVELOPERS TOOLKIT 36.95
DEVPAC AMIGA ASSEMBLR 129.95
DISK MAGIC 32.46
DISK MECHANIC, THE 58.50
DISK TO DISK 34.95
DISK WICK 32.46
DISKMASTER 37.95
DOS TO DOS 37.95
DUNLAP UTILITIES 47.95
ENCORE 45.95
EXPRESS COPY 29.95
FACC II 21.95
FINE PRINT 41.95
GFA BASIC 3.0 90.95
GIZMOZ 9.95
HISOFT BASIC PROFESSN 103.95
I.C.E. CALCULATOR PRG 58.95
INOVATOOLS I 58.47
J-FOURTH PROF 129.95
KEY TO "C" 22.95
LASER UP! FONTS VOL 1 31.95
LASER UP! PLOT 1.2 39.95
LASER UP! PRINT 1.2 71.95
LASER UP! UTIL. VOL 1 31.95
LATTICE C++ 299.95
LAZERSCRIPT 28.10
LINT 64.95
LOGIC WORKS ADVANDCED 189.95
M2 AMIGA 159.95
MAC 2 DOS 79.95
MAGELLAN 119.00
MARAUDER II 27.47
METACOMCO ASSEMBLER 68.95
METACOMCO SHELL 39.95
METASCOPE DEBUGGER 59.95
MODULA-2 LOADER/DEBUG 79.95
MULTI-FORTH 59.95
MULTI-PREFS 19.45
MURAL PRINTER 29.95
ONLINE PLATINUM 64.95
OTG DSM -DISASSEMBLER 43.95
PALETTE PRINTER 19.95
PCLO 199.95
PCLO+ PRNTD CURCUIT 399.95
POWER WINDOWS 2.5 58.47
PROJECT D 31.95
QUARTERBACK 45.95
QUICK MERGE 37.95
RAW COPY 1.3 38.95
SCHEME 199.95
• SOFTWARE FROM HELL 45.95
SOURCE LEVEL DEBUGGER 49.96
SUPERBACK HD UTILITY 51.95
SYSTEMS MONITOR 28.95
T SHELL 28.95
TELETUTOR 19.95
TOOL CADDY 32.46
TRUE BASIC DEV TOOLS 49.95
ULTRA DOS UTILITIES 37.95
ULTRACARD 35.95
VIP VIRUS 32.46
VIRUS PROTECT TOOLBOX 38.95
VTX ON-LINE 51.95
W SHELL 31.95
WBEXTRAS 21.95
WORKBENCH 1.3 24.95
X-COPY 25.95

GAMES

4 IN ONE 18.68
4x4 OFF ROAD RACING 32.46
4TH & INCHES CONSTRUC 9.95
4TH AND INCHES 29.95
AAARGH! 23.95
ACTION FIGHTER 25.95
ACTION SERVICE 25.95
AFRICAN RAIDERS 25.95
AFTERBURNER 32.46
AIRBALL 25.95
ALIEN LEGION 32.95
ALIEN SYNDROME 32.46
ALTERNATE REALITY 27.95
AMIGA KARATE 24.95
ANDROMEDA MISSION 25.95
ANNALS OF ROME 24.95
ARAZOK'S TOMB 31.25
ARCADE ACTION PACK 34.95
• ARCHIPELAGOS 25.95
ARCHON 13.97
ARKANOID 19.95
ART OF CHESS, THE 22.95
ARTHUR 32.46
• ASTAROTH 32.46
AUNT-ARTIC 25.95
AUTODUEL 25.95
BAAL 22.95
BAD CAT 30.25
• BAD DUDES 29.95
BALANCE OF POWER 1990 34.95
BALLISTYX 22.95
BARBARIAN 25.95
• BARBARIAN II 25.95
BARD'S TALE 17.95
BARD'S TALE HINT DISK 13.95
BARD'S TALE II 41.95
BATMAN 29.95
BATTLE CHESS 32.46
BATTLE HAWKS 38.95
BATTLE SHIP 19.46
BATTLETECH 32.46
BETTER DEAD T/ALIEN 21.95
BEYOND ZORK 33.76
BIONIC COMMANDO 25.97
BLACK CAULDRON 28.95
BLACK JACK ACADEMY 25.95
BLACK LAMP 22.00
• BLACK MAGIC 22.95
BLACK SHADOW 22.95
BLITZKRIEG (1 MEG VR) 38.95
BLOCKBUSTER 32.46
BLOOD MONEY 25.95
• BLOODWYCH 32.46
BOBO 23.36
BOMB BUSTER 21.95
BOMBUZAL 25.95
BREACH 25.95
BREACH SCENARIO DISK 16.95
BRIDGE 5.0 24.95
BUBBLE BOBBLE 22.95
BUBBLE GHOST 22.71
BUFFALO BILL'S RODEO 32.46
BUTCHER HILL 25.95
CALIFORNIA CHALLENGE 14.95
CALIFORNIA GAMES 29.95
CAPONE 25.95
CAPTAIN BLOOD 32.46
CARRIER COMMAND 30.95
CASINO FEVER 25.95
CENTERFOLD SQUARES 19.95
CHARON 5 25.96
CHESSMASTER 2000 32.46
CHRONO QUEST 33.95
CIRCUS ATTRACTIONS 25.95
CLEVER & SMART 22.72
COLOSSUS CHESS X 22.95
COMBAT COURSE 25.95
COMPUTER HITS VOL. 2 25.95

HARD DRIVE MADNESS SALE!!

(Prices valid only thru Dec. 30th, 1989)

Supra (A1000 owners add $60): (Larger capacities available-call.)
20 Meg HD (A500 ver. with optional 2 Megs RAM) $ 499.00
2 Meg memory board (populated) for A500 only) $ 299.00

A500 Only: GVP (Autoboot with sockets for 2 Megs RAM)
Impact A500-SCSI HD/20—20 Meg HD $ 599.00
Impact A500-SCSI HD/30—30 Meg HD $ 699.00
Impact A500-SCSI HD/40Q—42 11ms Quantum $ 799.00
Impact A500-SCSI HD/80Q—84 11ms Quantum $1199.00

A2000 Only: Hardcards (includes your choice of GVP, Microbotics HardFrame, or Supra WordSync hardcards)
Quantum 42 Meg 11ms HD $ 695.00
Quantum 84 Meg 11ms HD $1095.00
Quantum 100 Meg 11ms HD $1195.00

A2000 Controllers:
GVP SCSI+2 controller with sockets for 2 Megs RAM $ 279.00
GVP hardcard controller HC/0 $ 249.00
Microbotics HardFrame hardcard $ 239.95
Supra WordSync hardcard $ 189.95
Flashcard (super special price! While supplies last!) $ 149.00

A2000 Removable Media:
GVP Syquest removable 42 Meg HD $ 995.00

[NOTE: • = NEW ITEM.] **WE CAN BEAT ANY ADVERTISED PRICE! BUT WE SELDOM HAVE TO—OUR PRICES ARE THE LOWEST! (IF YOU SEE A LOWER PRICE ON AN ITEM, GIVE US A CALL.)**

• CONFLICT EUROPE 32.46
COSMIC BOUNCER 19.95
COSMIC PIRATE 25.95
COSMIC RELIEF 24.50
CRAPS ACADEMY 25.95
CRASH GARRET 25.96
CUBEMASTER 5.00
DAILYDOUBLE HORSERACE 19.95
DANGER FREAK 19.95
DARK CASTLE 9.95
DARK SIDE 25.95
DATASTORM 25.95
DEATH BRINGER 25.99
DEATH SWORD 19.95
DEFCON 5 25.95
DEFENDER OF THE CROWN 34.95
DEJA VU 34.95
DEJA VU II - LOST VEG 32.46
DEMON'S WINTER 27.95
DENARIS 24.95
DESTROYER 25.95
DISTANT ARMIES 29.95
DOMINOES 16.95
DOUBLE DRAGON 27.95
• DR. DOOM'S REVENGE 29.95
DRAGON'S LAIR 38.95
DREAM ZONE 32.46
DUNGEON MASTER 32.46
• DUNGEON MASTER EDITOR 19.95
DUNGEON MSTR HINTDISK 12.95
DUNGEON QUEST 32.46
EARL WEAVER BASEBALL 34.95
EARL WEAVER COMM DISK 14.95
EARL WEAVER STATS 14.95
EBON STAR 25.96
ELIMINATOR 25.95
ELITE 32.46
EMETIC SKIMMER 25.96
EMMANUELLE 25.95
EMPIRE 34.95
EMPIRE STRIKES BACK 30.25
ENIGMA DEVICE 25.95
ENLIGHTENMENT 15.95
EXTENSOR 25.95
• F-16 COMBAT PILOT 32.46
F40 PURSUIT 29.95
FAERYTALE ADVENTURE 31.95
FAERYTALE GUIDEBOOK 7.95
FALCON 32.46
FALCON MISSION DISK 16.95
FANTASTIC FOUR 19.95
FAST BREAK 29.95
FERNANDEZ MUST DIE 25.95
FERRARI FORMULA ONE 33.95
• FIENDISH FREDDY'S 32.46
FINAL ASSAULT 32.46
FINAL MISSION 19.95
FIRE N' FORGET 25.95
FIRE-BRIGADE 32.46
FIREPOWER 16.95
FIREZONE 23.95
FISH 29.95
FLIGHT SIMULATOR II 34.95
FOUNDATIONS WASTE 23.62
FRIGHT NIGHT 25.96
FROSTBYTE 19.46
FUED 12.95
• G.NIUS 25.95
GALACTIC CONQUERER 29.95
GALAXY FIGHT 9.95
GALDREGONS DOMAIN 25.95
GAMES WINTER EDITION 32.46
GAUNTLET II 33.95
• GEMINI WING 25.95
GETTYSBURG TURN POINT 40.95
GIGANOID 12.96
GLOBAL COMMANDER 27.46
GOLD OF THE REALM 25.95
GOLD RUSH 25.95
GOLDEN PATH 29.95
GOLDRUNNER II 25.95
GRAND MONSTER SLAM 25.95
GRAND PRIX CIRCUIT 29.95
GRAND SLAM TENNIS 31.25
GRETZKY HOCKEY 32.46
GRIDIRON W/TEAM DISK 19.95
GUNSHIP 35.95
GUNSHOOT 22.72
HARDBALL 28.95
HARRIER COMBAT SIMUL 32.95
HARRIER MISSION 19.95
HEAD COACH 32.46
HEROS OF THE LANCE 27.95
HEROS OF THE LANCE BK 13.95
HEX 25.95
HIGH STEEL 25.95
HIGHWAY HAWKS 22.95
• HILLSFAR 33.95
HKM 22.95
HOLE IN ONE 25.99
HOLE IN ONE COURSE #3 12.95
HOLLYWOOD POKER 25.95
HOSTAGE 29.95
HUNT FOR RED OCTOBER 34.95
HYBRIS 25.99
HYPERDOME 22.95
I LUDICROUS 19.95
IMPOSSIBLE MISSION II 32.46
INDIANNA JONES 25.95
INDOOR SPORTS 31.22
INDY & LAST CRUSADE 27.95
INSANITY FIGHT 25.96
INTERCEPTOR 37.95

BYTE BY BYTE

DISTRIBUTED BY CENTAUR SOFTWARE

SCULPT 3DXL $99.95
Create and render ray-trace objects with the speed and power of 4D.

SCULPT ANIMATE 4D JR. $89.95
Create, render and animate solid objects with the same easy-to-use interface as 4D (no ray-tracing).

SCULPT ANIMATE 4D $350
The most sophisticated and powerful 3D animation and ray-tracing software available on ANY PERSONAL COMPUTER! AND—IT'S ALSO THE EASIEST TO USE!



CREATIVE COMPUTERS' EXCLUSIVE UPGRADE POLICY: You can upgrade your 3DXL or 4D Jr. to 4D directly from Creative Computers by sending us your 3DXL master disk + $290 or 4D Jr. master disk + $300.

INTERNATIONAL SOCCER 25.96
INTO THE EAGLE'S NEST 28.56
• IT CAME FROM DESERT 34.95
• JACK NICKLAUS COURSE 12.95
JACK NICKLAUS GOLF 32.46
JAWS 25.95
JET 37.46
JINKS 19.95
JINXTER 25.95
JOKER POKER 32.46
JOURNEY 32.46
JUG 29.95
KAMPFGRUPPE 41.95
KARATE KING 15.95
KARTING GRAND PRIX 17.95
KENNEDY APPROACH 32.46
KIKUGI 18.95
KING OF CHICAGO 29.95
KING'S QUEST I 32.95
KING'S QUEST II 32.95
KINGDOMS OF ENGLAND 24.95
KINGS QUEST 3 HNT DSK 12.95
KINGS QUEST III 32.95
KNIGHT ORC 30.95
KRISTAL 32.46
LANCELOT 27.95
LAST DUEL 22.95
LAST INCA 25.95
LEATHERNECK 25.95
LED STORM 25.95
LEGEND OF DJEL 32.46
LEISURE SUIT HINTDISK 12.95
LEISURE SUIT LARRY 25.95
LIBYANS IN SPACE 19.95
LIGHT FORCE 25.95
LOMBARD RAC RALLY 25.95
LORDS OF THE RSNG SUN 29.95
MAJOR MOTION 25.96
MAN HUNTER - NEW YORK 32.46
MANIAX 16.95
MARBLE MADNESS 33.00
MASTER NINJA 30.95
MEAN 18 COURSE DISK 2 14.95
MEAN 18 GOLF 28.95
MENACE 19.98
MICKEY MOUSE 25.95
MIGHTY NERD 32.46
MIND ROLL 19.95
MIND WALKER 9.95
MISSION CON-BAT 31.16
MOEBIUS 25.95
MOTOR MASSACRE 24.95
MOUSE QUEST 14.95
NIGHT DAWN 19.95
NINJA MISSION 30.95
OBLITERATOR 25.95
OFFSHORE WARRIOR 25.96
OGRE 32.46
• OMEGA 32.46
OMNI PLAY BASKETBALL 32.46
ONE ON ONE 14.95
OPER. CLEAN STREETS 25.95
OPERATION NEPTUNE 32.46
OPERATION WOLF 22.95
OUT RUN 32.46
P.O.W. 25.95
PACLAND 19.95
PACMANIA 25.95
PALADIN 25.95
PALADIN - QUEST DSK 1 16.86
• PAPERBOY 32.46
PHANTASIE 27.47
PHANTASIE 3 27.95
PHANTASM 22.95
PINK PANTHER 28.56
PIONEER PLAGUE 25.96
PLANET OF LUST 25.95
PLATOON 29.21
PLUTOS 19.48

POKER SOLITAIRE 22.95
POLICE QUEST 32.46
POPULOUS 34.95
• POPULOUS DATA DISK #1 19.95
• POWERDROME 26.95
POWERSTYX 22.95
PRESIDENT IS MISSING 25.95
PRIME TIME 25.95
PRISON 25.95
PRO SOCCER 29.95
PROSPECTOR 29.95
PURPLE SATURN DAY 32.46
QIX 22.95
QUADRALIEN 19.95
QUESTRON II 32.46
QUINTETTES 29.95
RAMBO III 25.95
RAMPAGE 25.95
REAL GHOSTBUSTERS, TH 32.46
REALM OF THE TROLLS 32.46

The "We Want Everyone's Business" Blow-Out SALE!!!

Music-X $149.95



Deluxe Paint II (reg. $99.95) 49.95
Deluxe Video II 49.95
Deluxe Paint II & Deluxe Video II (combo) 79.95
Aegis Animator 19.95
Dark Castle 9.95
Beyond Dark Castle w/Dark Castle I (combo) 28.50
Mission Elevator 9.95
Crystal Hammer 9.95
Lights! Camera! Action! 39.95
Captain Fizz 9.95
Metacomco Toolkit 19.95
Acquisition Database (reg. $395) 49.95
Lurking Horror 9.95
Softwood File II 19.95
Ports of Call 19.95
NTF Fonts (Roman, Sans Serif or Comix) 9.95
Amiga Textcraft Plus 19.95
Graphics Studio 19.95
Forms In Flight II (3D animation, very powerful, incredible value—reg. $179) 9.95
GO-64 (C-64 emul.) 9.95
MaxiPlan Plus 89.95
Evil Garden 14.95
Joe Blade 14.95
Slaygon, Deep Space, Arena, War Zone, Space Station or Fire Blaster (ea.) 5.00
Supra 8 Meg RAM card with 2 Megs installed 399
Microway Flicker Fixer 449

These items are available for the indicated special prices only if ordered with any other regular item. Minimum order $20.00. **WHILE SUPPLY LASTS!**

REALM OF THE WARLOCK 22.74
REBEL CHARGE AT CHK 39.95
• RED LIGHTNING 41.95
REEL FISHIN' 30.95
RENEGADE 22.96
RETURN TO ATLANTIS 34.95
RETURN TO GENESIS 22.95
• REVENGE OF DEFENDER 22.95
RINGSIDE BOXING 22.95
ROAD RAIDERS 25.95
ROADWAR 2000 27.47
ROADWAR EUROPA 29.95
ROBBEARY 16.95
ROBOCOP 32.95
ROCKET RANGER 32.46
ROCKFORD 23.95
• ROLL OUT 22.95
ROMANTIC ENCOUNTER 25.95
RUNNING MAN 32.46
RVF HONDA 22.95
SANTA PARAVIA & FIUMA 19.95
SARGON III 35.95
SAVAGE 32.46
SCARY MUTANT ALIENS 25.95
SCENERY DISK #9 19.95
SCENERY DISK #11 19.95
SCENERY DISK #7 19.95
SCENERY DISK W.EUROPE 19.95
SCENERY DISK, EUROPE 17.95
SCENERY DISK, JAPAN 19.95
SCORPION 25.95
SCRABBLE 27.46
SDI - CINIMAWARE GAME 34.95
SECRETS DUNGEON MASTR 9.95
SEX VIXENS FROM SPACE 25.95
SHADOW GATE 31.95
• SHADOW OF THE BEAST 34.95
SHANGHAI 27.46
SHERLOCK 27.00
SHOGUN 38.95
SIDE ARMS 25.95
SILENT SERVICE 25.95
SIMCITY 30.95
SINBAD & THE SWORD 29.95
SKY BLASTER 19.95
SKY CHASE 26.95
SKYFOX II 27.46
SLEEPING GODS LIE 32.46
SLIP STREAM 16.95
SNAKE PIT 24.95
SOLITAIRE ROYAL 22.71
SORCERER LORD 23.95
SPACE CUTTER 19.95

SPACE HARRIER 32.46
SPACE QUEST 32.46
SPACE QUEST II 32.46
SPACE RACER 19.46
SPACE SCHOOL SIM 22.95
SPACESTATION OBLIVION 32.46
SPEEDBALL 25.95
SPHERICAL 25.95
SPIN WORLD 25.95
SPITTING IMAGE 25.95
• STAR COMMAND 33.95
STAR WARS 25.95
• STAR WARS TRILOGY 49.95
STARFLEET I 39.95
STARGLIDER II 29.95
STARGOOSE 25.95
STELLAR CONFLICT 28.95
STELLARX 25.95
STOCK MARKET-THE GAME 16.95
STORY SO FAR VOL. 1 39.95
STREET CAT 16.95
STREET FIGHTER 25.95
STREETSPORTS BASKETBL 13.95
STRIP POKER DATA #4 12.95
STRIP POKER DATA #5 12.95
STRIP POKER II 25.95
SUMMER CHALLENGE 19.95
SUPER 6 29.95
SUPER CARS 14.95
SUPER HANG-ON 32.46
SUPERIOR GOLF KIT 9.95
SUPERMAN 32.46
SUPERSTAR ICE HOCKEY 32.46
SWORD OF SODAN 32.46
• SWORDS OF TWILIGHT 34.95
TANGLEWOOD 25.95
TANK ATTACK 19.95
• TARGHAN 25.95
TASS TIMES TONE TOWN 19.95
TECHNOCOP 32.46
TEENAGE QUEEN 25.95
TELEGAMES 23.95
TERRORPODS 25.95
TESTDRIVE II 29.95
TETRA QUEST 25.95
TETRIS 22.95
THE DEEP 32.46
THEXDER 23.95
THREE STOOGES 32.46
THUNDER BLADE 32.46
THUNDERBOY 22.95
TIGER ROAD 25.95
TIME & MAGIC 26.95
TIME BANDITS 25.95

TIMES OF LORE 25.95
TITAN 29.95
TOM & JERRY 22.95
TOTAL ECLIPSE 25.95
TOWER TOPPLER 32.46
TRACERS 22.95
TRANSPUTOR 22.95
• TRIAD VOLUME 2 40.95
TRIANGO 29.95
TRINITY 25.95
TRIPLEX 25.95
• TRIVIAL PURSUIT 25.95
TRUMP CASTLE 25.95
TURBO 17.95
TV SPORTS FOOTBALL 34.95
TWILIGHT ZONE 25.95

M.A.S.T. PRODUCTS

Unidrive 149.95
Twin Drive 249.95
Micromegs 139.95
MiniMegs A500 or A1000—
512K 289.00
1 Meg 399.00
2 Megs 599.00
Fireball SCSI hardcard 229.00
30 Meg 559.00
90 Meg 1095.00
136 Meg 1399.00
182 Meg 1599.00
AMIG-a-TOSH 179.95
Tiny Tiger II HDs CALL
Infinity Machine CALL

TWILIGHT'S RANSOM 19.95
TWILIGHTS RANSOM 19.95
ULTIMA III 28.95
ULTIMA IV 38.96
UMS CIVIL WAR DATADSK 12.95
UMS VIETNAM DATADSK 12.95
UNINVITED 34.95
UNIVERSAL MILITARY SM 32.46
UNIVERSE 3 32.95
VAMPIRE'S EMPIRE 22.95
• VEGAS GAMBLER 25.95

VIDEO VEGAS 24.95
VIGILANTE 25.95
VINDICATORS 25.95
VIRUS (GAME) 19.95
WANDERER 25.95
WAR IN MIDDLE EARTH 36.99
WARLOCK 22.71
WESTERN GAMES 22.95
WHO FRAMED ROGER RABB 29.97
WILLOW 25.95
WINTER GAME 27.46
WORLD CLASS GOLF 29.95
WORLD GAMES 27.46
WORLD SNOOKER & OTHER 19.95
WORLD TOUR GOLF 27.45
WRANGLER 19.95
• XENON 2: MEGABLAST 34.95
ZAK MCKRACKEN 30.95
ZANY GOLF 32.46
ZERO GRAVITY 19.46
ZOOM 21.95
ZORK TRILOGY 47.95
ZORK ZERO 38.95
ZYNAPS 23.95

BUSINESS/ PRODUCTIVITY

ACCOUNTANT, THE 186.95
ACQUISITION TAURUS 49.95
ANALYZE 2.0 64.95
• AWARD MAKER - EDUC. 19.95
AWARD MAKER - SPORTS 19.95
AWARD MAKER PLUS 32.46
BECKER TEXT 99.95
BEST BUSINESS BUDGET 52.95
BEST BUSINESS MGMT 199.95
BEST GENERAL LEDGER 52.95
BLACK BOOK 23.50
BUDGETEER 32.46
BUTTON & BADGE MAKER 38.95
CELEBRITY COOKBOOK 22.95
CITY DESK 93.95
CYGNUS ED PROF 64.95
DATA RETRIEVE 54.95
DATA RETRIEVE PROFESS 211.95
DESIGNER DBASE BUILD 45.95
DESIGNER DBASE HOME 1 25.95
DESKTOP BUDGET 45.95
EASY LEDGERS 189.95
EXCELLENCE 195.00
FAMILY TREE 32.46
FLEET CHECK 25.96
FLOW 62.32
FORMATION 45.95
GOLD SPELL II 29.95
HALICALC SPREAD SHEET 30.95
IMPACT 62.46
INVESTOR'S ADVANTAGE 64.95
KINDWORDS 64.95
LEXCHECK 26.85
LOTTO PROB. GENERATOR 19.48
• MAXIPLAN 500 79.95
MICROFICHE FILER PLUS 116.95
MICROLAWYER 37.95
MOMENTUM CHECK 19.95
• MOMENTUM MAIL 19.95
MONEY MENTOR 19.95
NAG PLUS 3.0 49.95
• NIMBUS VER. 1.3 104.95
NORGEN GENEALOGICAL 32.40
NUTRIFAX 37.95
ORGANIZE 62.32
PAGE STREAM 129.95
PAGESETTER SPECIAL ED 24.95
PEN PAL 89.95
PHASAR 59.95
• PRINTMASTER PLUS 25.95
• PRO PAGE 1.3 (PREORD) 195.00
PRO PAGE TEMPLATES 38.95
PROFESSIONAL PAGE 229.00
PROJECT MASTER 129.95
PROSCRIPT 32.95
PROWRITE V2.5 79.95
PUBLISHER PLUS 124.95
RECIPE FAX 24.95
SCRIBBLE PLATINUM 97.95
SECURITIES ANALYST 49.95
SOFTWOOD FILE SG 19.95
• SUPERBASE PERSONAL 79.95
SUPERBASE PERSONAL 2 94.46
SUPERBASE PROF 3.0 209.95
SUPERPLAN 99.95
TAX BREAK 51.95
THINKER 45.95
TRANSCRIPT 25.95
TRIP 39.95
TXED PLUS 51.95
• VIVA 125.95
WHO WHAT WHERE WHEN 64.95
WORD PERFECT 179.00
WORD PERFECT LIBRARY 84.95
WORKS PALTINUM 179.00

ACCESSORIES

3.5" DISKFILE/30 8.95
3.5" DISKFILE/80 14.95
AMIGA ATHLETIC BAG 24.95
AMIGA BIC LIGHTER 1.95
AMIGA BRASS KEY RING 3.95
AMIGA CORDUROY CAP 7.95
AMIGA GARMENT BAG 34.95
AMIGA GOLF SHIRT 19.95
AMIGA JACKET 39.50
AMIGA LOGO NOTE PAD! 4.99
AMIGA MUG 5.78
AMIGA PEN & PENCIL 19.95
AMIGA PLASTIC VISOR 1.95
• AMIGA SPORTS TOWEL CALL
AMIGA SWEATSHIRT 14.95
AMIGA T-SHIRT 7.95
AMIGA TERRY VISOR 5.50
AMIGA TIE PINS 4.95
AMIGA TOWEL 15.95
AMIGA TWILL CAP 7.95
BOSS JOYSTICK 12.95
CABLES (nearly all types available including custom cables) CALL
CLEANING KIT LARGE 14.95
CLEANING KIT SMALL 7.95
COPY/CAMERA STAND 64.95
• CRYSTAL CLEAR TURBO 17.95
DESKJET BLK CARTRIDGE 15.95
DESKJET COURIER FONTS 62.95
DESKJET DUST COVER 29.95
DESKJET EPSON FX EMUL 62.95
DESKJET HELV 12 POINT 62.95
DESKJET HELV ASCII 104.95
DESKJET LANDSCAPE 79.95
DESKJET LETTER GOTHIC 79.95
DESKJET PRESENTATION 79.95
DESKJET PRESTIGE ELT. 79.95
DESKJET STAND/ORGNZR 84.95
DESKJET TMS/RMN 12 PT 62.95

DESKJET TMS/RMN ASCII 104.95
DIGI-DROID 69.95
DISKETTES, 50 PACK 64.95
DUAL GUN ADAPTER 24.95
DUAL JOYSTICK ADAPTOR 10.95
DUST COVER A1000 &MON 13.95
DUST COVER A2000 &MON 11.95
DUST COVER A500 CPU 8.95
DUST COVER MONITOR 11.95
DUST COVER SM PRINTER 8.95
EASYL DISK FOLDER 14.95

SALE! ASDG DUAL SERIAL BOARD $149.00

FEATURES: 2 high-speed RS232 serial ports for the Amiga 2000. IBM PC AT style (9-pin) connectors for each port. Transfer from 50 to 96,000 BAUD. Comes complete with Amiga software and full documentation.

EPYX 200XJ JOYSTICK 11.95
EPYX 500XJ JOYSTICK 14.95
ERGO STICK 17.95
FAST RACK DISK HOLDER 3.49
FLICKER MASTER 13.95
FLOPPY WALLET 7.95
FOUR PLAYER ADAPTER 11.95
GAME PLAY COMPACT DSK 12.95
GRAVIS ADVANCED STICK 35.95
INTERACTIVE CABLE 9.95
JOYSTICK Y ADAPTER 10.95
KALIMAR TEAK 135 DISK 35.95
• KALIMAR TEAK 60 DISK 24.95
KALIMAR TEAK 90 DISK 29.95
KEYBOARD SKIN A1000 19.95
KRAFT ACE JOYSTICK 5.99
KRAFT MAZEMASTER JSTK 9.95
LASERJET DUST COVER 29.95

• LASERJET IIP 1MB EXP 379.00
• LASERJET IIP 2MB EXP 769.00
• LASERJET IIP TONER/BK 79.95
• LASERJET IIP TRAY/LGL 99.00
• LASERJET IIP TRAY/LTR 159.00
LASERJET-2 COURIER 144.50
LASERJET-2 ENVLP TRAY 79.95
LASERJET-2 LASER CNTR 117.95
LASERJET-2 TONER CRTG 104.95
LASERJET-2D ENVL TRAY 279.95
LIGHT GUN, PHASAR 48.95
MICHTRON DISK FOLDER 10.95
MONITOR STAND & DRAWR 59.95
MOUSE MASTER 29.95
MOUSE MATS 6.95
MOUSE WASH 6.95
MY T MOUSE 59.95
OKIMATE COLOR RIBBON 5.99
PAINTJET BLK CARTRIDG 23.60
PAINTJET COLOR CRTRDG 29.10
PAINTJET CUT PAPER 19.10
PAINTJET DUST COVER 29.95
PAINTJET PAPER CATCH 23.95
PAINTJET PRINTR STAND 66.95
PAINTJET TRANS FILM 54.05
PAINTJET Z-FOLD PAPER 14.95
POWER STRIP, INTEREX 19.95
POWERPLAYERS JOYSTICK 19.95
QUICKSHOT 2 JOYSTICK 12.95
• QUICKSHOT II PLUS 9.95
• SAFESKIN/A2000 19.95
• SAFESKIN/A500 19.95
SONY COLOR DISKETTES 22.95
SONY DISK 10 PACK 20.95
SONY DISK 15 PACK 29.95
STAR CURSOR JOYSTICK 32.46
STAR NX-1000 RIBBON 6.95
STAR RAINBOW RIBBON 10.95
• SWITCH BOX, AB 29.95
TAC-2 JOYSTICK 10.95
TEAK-TECH 120 32.95
TEAK-TECH 60 26.95
• THINGI II COPY HOLDER 6.95
TRACKBALL MOUSE STYLE 39.95
TRACKBALL, JOYSTICK 39.95
WICO 3-WAY JOYSTICK 25.95
WINNER JOYSTICK 14.95
XEROX 4020 4 PACK INK 19.95
XEROX 4020 BLACK INK 11.95

BOOKS/MAGS/ VIDEO TAPES

Complete selection of Amiga titles CALL

CENTAUR PUTS THE FUN IN FUNCTIONAL!

CSI 5500 Boingl Mouse (optical mouse) $99.95
CSI 6600 MiniMax (1.8 Meg expansion fits in A501 slot) CALL
Centaur World Atlas $39.95
QuasarSound—Sound sampling software with unique "Autoboot-a-playdisk" function $39.95
B.A.D. disk optimizer $32.46
Mypaint $32.47
Professional Techniques for DPaint III (VHS video) $24.95
Centaur Games:
Leonardo or OsWald (ea.) $24.95
Xorron 2001 (available soon) $24.95
Professional: (special Christmas prices)
Pro-Net or Pro-Board (ea.) $349
Special Blow-Out Sale:
Forms In Flight II—3D modeling & anim. (reg. $179) $49.95
C-Zar Casio CZ-1, 101, 1000 editor/lib. (reg. $199) $49.95

NEW: THE *SILENT* DRIVE $169

WITH B.A.D ACCELERATOR SOFTWARE (up-to-500% SPEED INCREASE)!

FEATURES: • CSI 3200 • Clickless • Small compact design • Metal case • Compatible with all Amiga computers • Low power consumption • Hinged dust cover • Drive disable switch • 1-year warranty.
ALSO AVAILABLE: CSI 2200 internal drive for Amiga 2000—100% compatible with same mechanism as Commodore 2010 $99.00

FREE SHIPPING!*

CREATIVE COMPUTERS is both a mail order company with a store's support and three store showrooms with mail order prices. Visit one of our showrooms today. You'll be amazed!

3 RETAIL SHOWROOM LOCATIONS TO SERVE YOU

SANTA MONICA & WESTSIDE: 318 Wilshire Blvd., Santa Monica, CA 90401. Tues.-Sat. 11-7 p.m./Sun. 11-5 p.m./Phone: 213-394-7779.

LAWNDALE & SOUTH BAY: 4453 Redondo Beach Blvd., Lawndale, CA 90260. Mon.-Sat. 11-7 p.m./Phone: 213-542-2292.

VENTURA, OXNARD & SANTA BARBARA: 2112 E. Thompson Dr., Ventura, CA 93001. Tues.-Sat. 11-7 p.m./Sun. 12-5 p.m./Phone: 805-652-0325.

7 REASONS WHY YOU SHOULD SHOP AT CREATIVE COMPUTERS:

1. We're the largest dealer of Amiga products in the World. Now with even larger facilities and twice the staff!
2. Three store locations means excellent support.
3. Our new mini-computer assures you:
   • Immediate customer service and order status.
   • Advanced inventory control and ordering minimizing back orders and delays.
4. Best service center, anywhere!
5. Uniform low pricing and largest selection, no hidden costs or catches.
6. U.S. and International TOLL-FREE ordering!
7. We don't charge your card until the product ships.

CUSTOMER SERVICE: For technical support call 213-542-2292 from 11 a.m. to 7 p.m. PST for technical questions.

VISA MasterCard AMERICAN EXPRESS DISCOVER

*SHIPPING INFO:** No surcharge for Visa/MasterCard; 4% surcharge for American Express; 1% surcharge for Discover. Shipping within the continental United States for software orders over $100 (U.S.) is FREE. Please call for all other shipping information. Educational, corporate and aerospace purchase orders accepted.

Next day service with— FEDERAL EXPRESS AVAILABLE UPON REQUEST

RETURN POLICY: Call Customer Service at (213) 214-0000 for return authorization. All returns without authorization number (RMA#) will be refused. Returned products must be in original condition and packaging and must be sent back within 30 days of our invoice date. No refunds product replacements only. We make no guarantees for product performance.

CONDITIONS: Prices and availability of products are subject to change without notice.

MAIL-IN ORDERS: Send money orders or cashiers check for fast service. (Personal checks take up to 10-days to clear.) Include: name, address and telephone number. If ordering by credit card, include expiration date and billing address. Please call for exact shipping rates.

CREATIVE COMPUTERS IS INTERNATIONAL!

INTERNATIONAL TOLL-FREE ORDERING POLICIES: Minimum order $100 U.S. Orders only please. Absolutely *no* product inquiries, or any shipping inquiries, will be taken over the toll-free phone lines. For any other information, please call (213) 214-0000. We have operators versed in the following languages: English, French, and Spanish, only. Shipping prices vary and are quoted following your order. Payment is made via credit card or electronic fund transfer. For any other information please call our regular toll lines. Federal Express and International Shipping available.

INTERNATIONAL PHONE NUMBERS: Canada 1-800-548-2512; Italy 1678-74086; United Kingdom 0800-89-1178; France 19-0590-1099; W. Germany 01-30-810466; Japan 0031-11-1351; Australia 0014-800-125-712; Netherlands 06-022-8613; Norway 050-12029; Denmark 0434-0297; Switzerland 046-05-3420.

[NOTE: • = NEW ITEM.] WE CAN BEAT ANY ADVERTISED PRICE! BUT WE SELDOM HAVE TO—OUR PRICES ARE THE LOWEST! (IF YOU SEE A LOWER PRICE ON AN ITEM, GIVE US A CALL.)

Circle 199 on Reader Service card.

Last Minute Help

These late arrivals are right on time for the shopping rush.

By B. G. Hunter

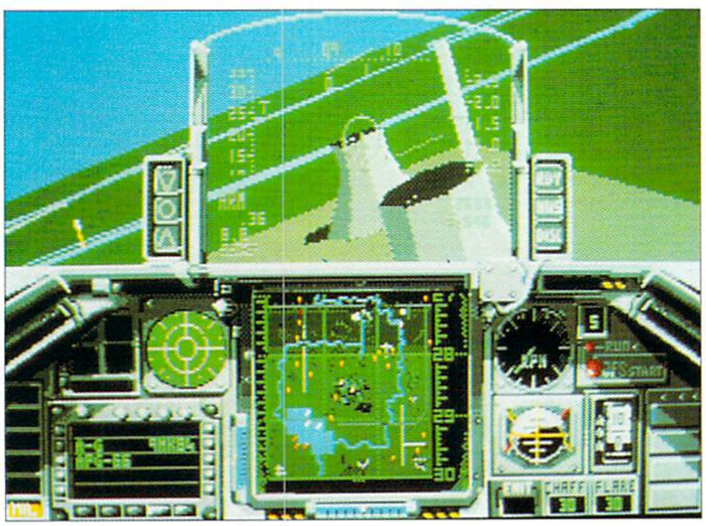
THE END OF the year always puts me in a desperate and reflective mood; I get desperate for gift ideas as I reflect on all the game suggestions I've already given out. If you're still searching for the perfect present too, take heart. Several new games have arrived on my desk and beat out my old favorites. Grab your shopping list (or your wish list) and take note.

TEE ANYONE?

Winter temperatures make me yearn for the sun. A round of **Jack Nicklaus' 18 Greatest Holes of Championship Golf** (Accolade, $49.95) isn't a trip to Jamaica, but it'll do in a pinch. The game is a lot more fun to play alone than my previous favorite, Mean 18 (Accolade, $44.95). Now, you can choose up to three computer-controlled opponents of varying ability. Top of the heap, of course, is the Golden Bear himself.

As you play, keep an eye on those opponents; they can teach you a lot. From Jack I learned to gamble and overswing. Just let your back-swing enter the red danger zone, then let it rip. Sure, your swing is more likely to be wild, but the resulting longer shots may get you on the green in fewer strokes. Don't worry about making a perfect swing and clicking the mouse button at exactly the right moment on the downswing. You'll probably be consistently a little late or a little early. Don't fight it; just position yourself to compensate for your natural hook or slice.

A few clouds do darken the game's horizon. Playing with the computer opponents lengthens the game, and detailed graphics slow play further. Putting is also tougher than in Mean 18. Most annoying was when one of my computer opponents (not Jack) got ►



Set your sights on enemy installations with Falcon.

stuck in an infinite loop, hitting the ball into the water continually.

RESTART YOUR ENGINES

The roadways are more crowded than the fairways, boasting two new arrivals.

Stalled for two years in development, **Turbo** (MicroIllusions, $24.95) has finally hit the streets. You race up the screen through cities and countrysides, past an endless stream of cars and motorcycles. Your goal is to reach the finish line before time runs out. Another vehicle in your path? Knock it out of the way or shoot it—but don't let anybody else get you. Pedestrians? Run them over and listen to the screams. You can even pick up such valuable supplies as faster tires and weapons. Be forewarned, however, that the scoring is oddly inconsistent: You get 5000 points for shooting a vehicle, but only 10 for knocking it off the road. I ran over and around (ahem, and into) a lot of obstacles but never made it close to the finish line. You won't find any beginner levels to make the task easier, either. If you don't get too frustrated, the long playing life coupled with the low price could make Turbo *the* holiday bargain.

For a less bloodthirsty, but no less thrilling, ride, try **The Duel: Test Drive II** (Accolade, $44.95). You speed along country roads, racing either another car or the clock, winding your way through the traffic, all the while avoiding the ubiquitous police. To simplify the learning process of steering, shifting, and cop watching, Accolade has added several skill levels. On the first few, the car shifts itself. The road is easier to navigate at first, as well. As you drive, the road becomes less forgiving, more twisting, and more traffic infested. Ol' Smokey doesn't hassle you until the third segment. The game's biggest disadvantage is the limited selection of cars: a Porsche 959 and a Ferrari F40. For more variety, you can buy additional car and scenery disks ($19.95 each).

The key to learning The Duel is to start out at the lowest skill level. When you can complete the course, move up to the next level. You'll have more fun, and your scores will increase as the levels get harder. To rack up the points you'll need a fast car. The Lotus, with its top speed of about 160, just doesn't make it. Race against the clock. You won't have to worry about the computer-controlled jerk crashing in your path and slowing you down. Also, pay particular attention to the course's first segment. While it's the easiest, it's also crucial if you want a high score. If you finish it with the pedal to the metal the whole way, and never crash, you can average over 130 mph and score over 60,000 points at the highest difficulty level.

The Duel may not be the ultimate racing game, but it's my present favorite. Let me know if these hints help you top my score of slightly under 130,000.

THE JET SET

If jet fuel flows in your veins, you'll want to find **Falcon** (Spectrum Holobyte, $49.95) and it's **Operation: Counterstrike Mission Disk** ($24.95) under your tree.

You fly Falcon's F16 in basically the same way you fly other simulators. It even uses some of the same keys—press the G key and, sure enough, the landing gear retracts. It isn't quite as much fun to fly as F/A-18 Interceptor (Electronic Arts, $49.95), but it is very close. Don't make the mistake of thinking you can get by strictly on your knowledge of other flight simulators; Falcon is a very complex game. To be an ace you must read the 140-page manual.

Missions are the most fun. In the original game, 12 missions progressively lead to your enemy's total destruction. As you complete each mission you get ribbons and medals. You can fly the missions at different difficulty levels and ranks. As a first lieutenant, for example, you don't have to worry about crashing. If you want all the medals, however, you can't avoid high rank and responsibility: Some medals go only to high-ranking officers. The dozen Counterstrike missions are better and more realistic. If you blow up a tank factory on one mission, for example, in succeeding missions you'll have fewer tanks to fend off (until they rebuild the factory). ►

Manufacturers' Addresses

Accolade
550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
408/296-8400

Electronic Arts
1820 Gateway Dr.
San Mateo, CA 94404
415/571-7171

MicroIllusions
17408 Chatsworth St.
Granada Hills, CA 91344
818/360-3715
800/522-2041

Spectrum Holobyte
2061 Challenger Dr.
Alameda, CA 94501
415/522-3584

Computer Mart

BEST BUY
SUPRA 2400 MODEM
$129.00
HAYES COMPATIBLE
300/1200/2400 BAUD

SOFTWARE

3-DEMON	68.00
3D FANCY FONTS	48.00
AAARGH	21.00
AC BASIC	135.00
AC FORTRAN	198.00
AEGIS DRAW 2000	168.00
AMIKIT	24.00
ANALYTIC ART	38.00
ANALYZE 2.0	62.00
ANDROMEDA MISSION	25.00
ANIMAGIC	63.00
ANIMATE 3D	95.00
ANIMATOR APPRENTICE	187.00
AQUAVENTURE	24.00
ARCHITECTURAL DESIGN	22.00
AREXX	30.00
ARKANOID	25.00
ASSEMPRO	69.00
ATALK III	60.00
ATREDES BBS PRO.	90.00
ATREDES TERMINAL	30.00
B.A.D.	30.00
BARD'S TALE II	37.00
BATTLE CHESS	30.00
BAUD BANDIT	30.00
BBS-PC	92.00
BENCHMARK MODULA 2	138.00
BENCHMARK LIBRARIES	69.00
BEYOND DARK CASTLE	21.00
BLITZ. ON THE ARDENNE	37.00
BLOOD MONEY	24.00
BREACH	28.00
BRIDGE 5.0	22.00
BUBBLE BOBBLE	26.00
BUBBLE GHOST	25.00
BUTCHER 2.0	23.00
CALIFORNIA GAMES	27.00
CALLIGRAPHER	74.00
CAPE 68K ASSEMBLER	59.00
CAPONE	35.00
CAPTAIN BLOOD	31.00
CARMEN SAN DIEGO	27.00
CARRIER COMMAND	28.00
CENTERFOLD SQUARES	20.00
CHESSMASTER 2000	31.00
CHRONOQUEST	24.00
CITY DESK 2.0	120.00
CLUE	24.00
COMICSETTER	66.00
COMICSETTER DATA DISKS	22.00
CRITICS CHOICE	150.00
CYGNUS ED PRO	60.00
DARK CASTLES	28.00
DATARETRIEVE	53.00
DEATH BRINGER	24.00
DECIMAL DUNGEON	32.00
DELUXE HELP DISKS	22.00
DELUXE MUSIC 2.0	69.00
DELUXE PAINT III	99.00
DELUXE PHOTO LAB	98.00
DELUXE PRINT II	57.00
DELUXE PRODUCTIONS	138.00
DELUXE VIDEO 1.2	86.00
DEMON'S WINTER	27.00
DESIGN 3D	60.00
DESKTOP BUDGET	42.00
DESTROYER	27.00
DEVPAK ASSEMBLER	60.00
DIGI PAINT 3.0	66.00
DIGIWORKS 3D	78.00
DIRECTOR	44.00
DIRECTOR TOOLKIT	28.00
DISCOVERY DATA DISKS	14.00
DISCOVERY MATH	28.00
DISC. SPELL	28.00
DISC. TRIVIA	28.00
DISK MASTER	48.00

DISK MECHANIC	55.00
DOS TO DOS	32.00
DOUGS MATH AQUARIUM	51.00
DOWNHILL CHALLENGE	21.00
DR. T'S SOFTWARE	CALL
DRAGON'S LAIR	39.00
DRUM STUDIO	30.00
DUNGEON MASTER	24.00
DYNAMIC DRUMS	51.00
DYNAMIC STUDIO	138.00
EARL WEAVER BASEBALL	35.00
EMPIRE	35.00
EMPIRE STRIKES BACK	24.00
ENCHANTER	21.00
EUROPEAN SCENERY DISK	18.00
EXCELLENCE	174.00
EXPRESS PAINT 3.0	78.00
FA INTERCEPTOR	35.00
FACC II	24.00

HOLLYWOOD POKER	22.00
HONEYMOONERS	25.00
HUMAN DESIGN	22.00
HUNT FOR RED OCTOBER	35.00
HYBRIS	24.00
INDOOR SPORTS	35.00
INOVATOOLS #1	55.00
INSANITY FIGHT	28.00
INTELLITYPE	35.00
INTERCHANGE	32.00
INTERFONT	72.00
INTERNATIONAL SOCCER	24.00
INTROCAD	51.00
INVESTOR'S ADVANTAGE	66.00
JACK NICHOLAS GOLF	30.00
JET	36.00
JET SET UTILITIES	24.00
JEWELS OF DARKNESS	21.00
JIGSAW	30.00
JINXTER	28.00
JOE BLADE	21.00
KAMPFGRUPPE	39.00
KARATE KID II	28.00
KARATE KING	19.00
KARTING GRAND PRIX	19.00
KINDERAMA	32.00
KINDWORDS	63.00
KING OF CHICAGO	35.00
KINGDOMS OF ENGLAND	30.00
KRISTAL	30.00
LANCELOT	26.00
LAS VEGAS	19.00
LATTICE C 5.0	204.00
LAZERSCRIPT	29.00
LEADER BOARD DUAL PACK	21.00
LEATHER GODDESSES	26.00

Kronos A2000 HardCard
Fast Autobooting Controller

Non-DMA design delivers DMA Speeds without the problems associated with typical DMA controllers. For A2000 Only

Super Low Prices on Quality Kronos

Kronos Card w/Frame	$216.00
Kronos w/ST-157N 48 Meg	*$638.00*
Kronos w/Quantum 40	$786.00
Kronos w/Quantum 80	$1085.00
Kronos w/ST-296N 80 Meg	*$789.00*

FAERY TALE ADVENTURE	35.00
FAERY TALE HINT BOOK	10.00
FALCON	30.00
FAMILY TREE	30.00
FANTAVISION	38.00
FEDERATION	30.00
FERRARI FORMULA I	35.00
FINE PRINT	30.00
FIRE POWER	16.00
FIRST LETTERS & WORDS	35.00
FIRST SHAPES	35.00
FLIGHT PATH 737	19.00
FLIGHT SIMULATOR II	36.00
FLIPSIDE	38.00
FLOW	65.00
FORMS IN FLIGHT II	72.00
FORTRESS UNDERGROUND	19.00
FRACTION ACTION	32.00
GETTISBURG	42.00
GIZMOS 2.0	44.00
GNOME RANGER	14.00
GOLD RUNNER	28.00
GOLD SPELL II	29.00
GOLDEN PATH	32.00
GOMF 3.0	24.00
GOMF 3.0 W/ BUTTON	51.00
GRABBIT	21.00
GRADE MANAGER	52.00
GRAND PRIX CIRCUIT	28.00
GRAPHIC STUDIO	38.00
GREAT STATES II	25.00
GRID START	19.00
GAUNTLET II	35.00
HACKER II	28.00
HARDBALL	28.00
HARRIER COMBAT SIM.	35.00
HARRIER MISSION	19.00
HEROES OF THE LANCE	26.00
HITCHHIKERS GUIDE	21.00
HOLE-IN-ONE MIN. GOLF	22.00

LIGHTS, CAMERA, ACTION	51.00
LINKWORD LANGUAGES	19.00
LION'S FONTS	54.00
LRDS OF THE RISING SUN	31.00
LOTTERY MAGIC	18.00
LURKING HORROR	28.00
M	155.00
MAGELLAN	117.00
MAGIC JOHNSON BASK.	30.00
MANIC INVADERS	19.00
MARBLE MADNESS	35.00
MASTER TYPE	28.00
MATH MAGICIAN	28.00
MATH TALK	35.00
MATH TALK FRACTIONS	35.00
MATH WIZARD	32.00
MAVIS BEACON TYPING	35.00
MAXIPLAN 500	94.00
MAXIPLAN PLUS	126.00
MEAN 18	28.00
MENACE	28.00
MICROBOT DESIGN DISK	22.00
MICROFICHE FILER PLUS	108.00
MICROLAWYER	38.00
MIDI MAGIC	92.00
MIMETICS UTILITIES 1	40.00
MINI PUTT	24.00
MISSION CON-BAT	29.00
MISSION ELEVATOR	32.00
MODELER 3D	88.00
MOEBIUS	41.00
MONEY MENTOR	61.00
MONOPOLY	24.00
MOVIE CLIPS	21.00
MOVIESETTER	63.00
MULTI-FORTH	56.00
MUSIC MOUSE	50.00
MUSIC STUDENT	35.00
NEUROMANCER	27.00
OBLITERATOR	28.00

OF THE FLESH	24.00
ONE ON ONE	14.00
ONLINE PLATINUM	60.00
OPERATION WOLF	24.00
OPTICKS	120.00
ORGANIZE	63.00
OUTRUN	29.00
PAPER BOY	30.00
paGE STREAM	138.00
PAGEFLIPPER + F/X	94.00
PALADIN	28.00
PEN PAL	90.00
PERFECT SCORE	55.00
PERSECUTORS	13.00
PHANTASIE III	28.00
PHASAR 3.0	56.00
PHOTON CELL ANIMATOR	104.00
PHOTON PAINT 2.0	90.00
PHO. PAINT SURFACE DISK	18.00
PIONEER PLAGUE	24.00
PIXELSCRIPT	66.00
PIXMATE	44.00
PLATOON	28.00
POPULOUS	36.00
PORT OF CALL	32.00
POWER WINDOWS 2.5	62.00
PRINTMASTER +	32.00
PRISON	24.00
PRO ASM	66.00
PRO BOARD	355.00
PRO NET	355.00
PRO SOUND DESIGNER	98.00
PRO VIDEO PLUS	179.00
PRO. DATARETRIEVE	195.00
PROFESSIONAL PAGE	240.00
PROJECT D	32.00
PROWRITE 2.0	78.00
QIX	21.00
QUADRALIENS	18.00
QUARTERBACK	48.00
QUESTRON II	32.00
RAMPAGE	24.00
RAW COPY	36.00
RISK	24.00
ROAD RAIDERS	24.00
ROADWAR 2000	28.00
ROADWAR EUROPA	31.00
ROCKET RANGER	35.00
ROGER RABBIT	27.00
ROMANTIC ENCOUNTER	28.00
RUSH'N ATTACK	28.00
SARGON III	35.00
SCRIBBLE PLATINUM	90.00
SCULPT 3DXL	99.00
SCULPT/ANIMATE 4D JR	99.00
SEX VIXENS	24.00
SHANGHAI	28.00
SILENT SERVICE	28.00
SINBAD & FALCON	35.00
SKY CHASE	27.00
SLAYGON	28.00
SONIX	49.00
SOUND QUEST	CALL
SOURCE LEVEL DEBUGGER	56.00
SPACE STATION OBLIVION	29.00
SPEEDBALL	24.00
SPELLER BEE	35.00
STARGLIDER II	28.00
STELLAR CONFLICT	28.00
STELLARYX	24.00
STREET CAT	27.00
STRIP POKER II	24.00
STUDIO MAGIC	63.00
SUB BATTLE	27.00
SUPERBACK	48.00
SUPERBASE PERSONAL 2	87.00
SUPERBASE PRO	207.00
SUPERPLAN	99.00
SUPERSTAR ICE HOCKEY	35.00
SWORD OF SODAN	30.00
SYNTHIA	69.00
TARGIS	24.00
TAX BREAK	48.00

TECNOCOP	29.00
TELEGAMES	22.00
TELEWARS	28.00
TERRORPODS	28.00
TEST DRIVE II	27.00
TEXTPRO	53.00
THE ACCOUNTANT	190.00
THE THREE STOOGES	35.00
THE WORKS PLATINUM	178.00
THEXDER	26.00
THUNDERBLADE	30.00
TIME AND MAGIK	26.00
TITAN	27.00
TRACER	22.00
TURBO SILVER	115.00
TV SPORTS FOOTBALL	29.00
ULTIMA IV	41.00
UNINVITED	35.00
UNIV. MILITARY SIM.	30.00
V.I.P.	30.00



CALIFORNIA ACCESS CA-880
NEW LOW PRICE
$139.00

VIDEO EFFECTS 3D	130.00
VIDEO TITLER	88.00
VORTEX	24.00
WAYNE GRETZKY HOCKEY	30.00
WORDPERFECT	145.00
WORLD CLASS LEADER BD	28.00
WORLD TROPHY SOCCER	30.00
X-CAD DESIGNER	90.00

Super Special
A501 CLONE
$119.00
512K MEMORY
With Clock/ Calendar

HARDWARE

8 UP 0K	179.00
8 UP W/2 MEG	489.00
8 UP W/4 MEG	CALL
8 UP W/6 MEG	CALL
8 UP W/8 MEG	CALL
ADAPTEC 4000	126.00
ADAPTEC 4070	170.00
AIR DRIVE EXT.	149.00
AIR DRIVE INT.	139.95
AMIGEN GENLOCK	156.00
APRODRAW 12 X 12	480.00
C LTD REPLMNT KYBD	98.00
C LTD HARD DRIVES	CALL
CALIFORNIA ACCESS	149.00
C LTD KRONOS SCSI	CALL
C LTD SCSI 500	156.00
C LTD SCSI 1000	180.00
C LTD SCSI 2000	119.00
CM 20 MEG A500/A1000	639.00
CM 20 MEG A2000	539.00
CM 40 MEG A500/A1000	799.00
CM 40 MEG A2000	749.00
CM 65 MEG A500/A1000	879.00
CM 65 MEG A2000	799.00

CM 85 MEG A500/A1000	850.00
CS-1 COPY STAND	62.00
CVIEW 1	35.00
CVIEW 2	35.00
DELUXE MIDI INTFCE	63.00
DIGI-DROID	62.00
DIGI-VIEW 3.0	139.00
DIGI-VIEW GOLD	139.00
ECE MIDI	50.00
EPYX 500 XJ JOYSTK	14.00
ERGOSTICK JOYSTK	18.00
FLICKER FIXER	510.00
FLICKER MASTER	12.00
FRAMEGRABBER	529.00
FUTURE SOUND	136.00
FUTURE SOUND 500	99.00
GEN ONE GENLOCK	699.00
GO 64	24.00
GO 64 INTERFACE CABLE	15.00
GVP 68030 BOARD	CALL
GVP 68030 W/68882	CALL
GVP 68030 W/4 MEG	CALL
GVP 20 MEG HARDCARD	575.00
GVP 30 MEG HARDCARD	698.00
GVP 45 MEG HARDCARD	816.00
GVP AUTOBOOT EPROM KIT	29.00
GVP IMPACT A500	CALL
GVP A500 RAM MODULE	66.00
GVP SCSI/RAM A2000 0K 1M	294.00
GVP SCSI/RAM A2000 0K 2M	324.00
GVP SCSI/RAM A2000 2M	564.00
HARDFRAME 2000	257.00
HD-6A HARD DRIVE CASE	125.00
INBOARD 0K A1000	216.00
INBOARD 512K A1000	299.00
INBOARD 1 MEG A1000	349.00
INBOARD 1.5 MEG A1000	439.00
INBOARD 0K A500	239.00
INBOARD 1 MEG A500	349.00
INBOARD 2 MEG A500	489.00
MEGABOARD 2000 1 MEG	359.00
MEGABOARD 2000 2 MEG	479.00
MIDI GOLD A500	58.00
MIDI INSIDER A2000	65.00
MIDI STAR	216.00
MODEM CABLE A1000	15.00
MODEM CABLE A500/A2000	15.00
MOUSE MASTER	27.00
MOUSE PADS	9.00
NEC PINWRITER 2200	379.00
PERFECT SOUND	66.00

NEW MW 738
A500 POWER SUPPLY
$81.00

PERFECT VISION	189.00
PRO GEN GENLOCK	384.00
PRORAM 8 MEG W/2 MEG	489.00
SCSI CABLES	25.00
SEAGATE ST157N 48 MEG	439.00
SEAGATE ST225N 20 MEG	345.00
SEAGATE ST251N 40 MEG	440.00
SEAGATE ST277N 65 MEG	510.00
SEAGATE ST138N 30 MEG	394.00
SEAGATE ST296N 85 MEG	570.00
SPIRIT TECH. A500 512K 0K	44.00
STARDRIVE SCSI CONT.	102.00
SI COLOR SPLITTER	90.00
STARBOARD II 0K	260.00
STARBOARD II 512K	360.00
STARBOARD II 1 MEG	428.00
STARBOARD II 2 MEG	635.00
SUPER GEN GENLOCK	699.00
SUPRA 2400 MODEM	129.00
BRICK A500 POWER	102.00
TIMESAVER	55.00
VD-1 FRAMEGRABBER	920.00
VI-2000RF	78.00
VI-500RF	78.00
WV-1410 W/LENS,CABLE	238.00
X-SPECS 3D	94.00

Spirit Technology
A500 & A1000 Memory Expanison

Inboard 512K	$299.00
Inboard 1 meg	$349.00
Inboard 1.5 meg	$439.00
Inboard 2 Meg A500	$489.00

ORDER TOLL FREE
800-44[illegible]-8[illegible]36

Standard Air
Available on Request
Circle 69 on Reader Service card.

Computer Mart
105 Lynn St.
Nacogdoches, TX 75961
INFORMATION: 409-560-2826

SHIPPING INFO: Software rates are $2.10/item (Max8.00) UPS Ground or $4.00/item (Max 14.00) UPS 2nd Day Air. Call for Hardware shipping info. REFUND & RETURN POLICY: Defective merchandise under warranty will be repaired or replaced. Returned product must be in original packaging. We do not offer refunds for defective products or for products that do not perform satisfactorily. We make no guarantees for product performance. Money back guarantees must be handled directly with the manufacturer. All returns must have an RA #. Call 409-560-2826 for an RA. Returned products are subject to a 20% restocking fee. Prices subject to change without notice. Delivery subject to availability.

While the missions are more challenging, the flying is easier in Counterstrike. The F-16's landing gear is more forgiving, and the cockpit instrumentation is a step forward.

Next month I'll be back with plenty of useful strategy hints for playing some of those games you unstuffed from your stocking. □

Although not the type to be caged in an office, B. G. Hunter does skulk in occasionally to pick up his mail. Write to him c/o AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

GAME REVIEWS

Times of Lore

By Patrick Quaid

THE BELOVED HIGH King of Albareth has been missing for several years, and the kingdom is going to pot under the ineffective leadership of his steward. Through a series of quests you must investigate the disappearance and restore the High King to the throne.

You gather information by talking to people. Select the mouth icon and choose to chat with or question nearby characters. If you decide to ask a question, the game provides a list of topics. Topics are added to this list as your character finds out about them through conversations, and removed when all the related information has been uncovered.

The interesting part of Times of Lore is that the auxiliary characters live their own lives. If you walk into a fellow's (I never saw a female character) house at night, he is likely to be in bed. If not, he's probably up to something. In the morning you can watch him get up, putter around the house, then, for example, spend his day in a bar.

The map is drawn from an almost overhead point of view, using shadows and well chosen colors to give it a feeling of depth. The design of the individual squares and their layout make the map seem like a continuous sheet, rather than the familiar grid systems. This effect is further supported by the way the characters move in small increments, ignoring the implementation of the map. Reality sets in, however, when you try to walk through a doorway, around a table, or up some stairs. Until you get used to it, these obstacles can be quite a puzzle.

Times of Lore comes on a copy-protected disk with a well-written game book, a poster-sized map, and a computer-specific reference card. The book begins with a narrative about the kingdom, then describes game mechanics and provides several clues.

Times of Lore injects new life into a game genre that definitely needed it. Although some aspects, such as conversation and combat, seem too simple, the foundation of the game is solid and refreshing. *($39.95, Origin Systems, 136 Harvey Rd., Building B, Londonderry, NH 03053, 603/644-3360. No special requirements.)*

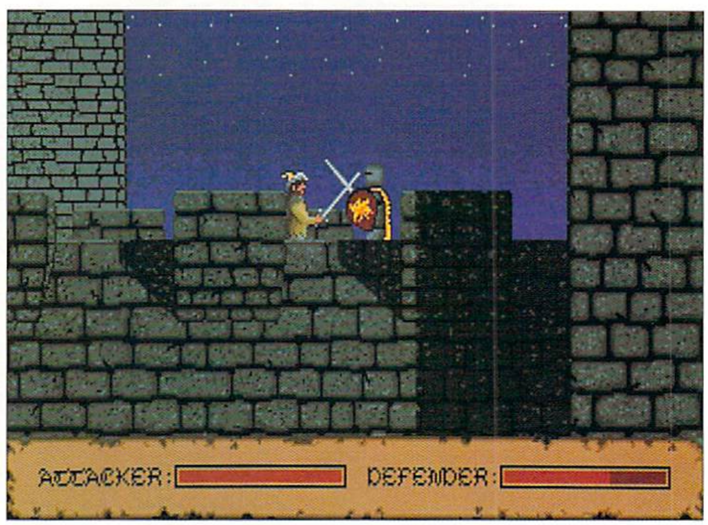
Kingdoms of England

By Patrick Quaid

IF YOU'VE EVER thought about conquering Britain at the head of a massive army (and who hasn't), Kingdoms of England might be your cup of tea. It combines a simple strategic challenge with a clean, useful interface to make a very entertaining game.

You start with one province, a small army, and a deep antipathy for your neighbors. You spend your tax money on troops, catapults, or castles (not many social programs in 1421), and try to wage campaigns without being waged upon. You manage your empire almost entirely with the mouse, scrolling around a well-rendered map that includes Scotland and Wales. The game's methods for indicating troop movements, geographical features, and castles convey their messages clearly and effectively, and entering orders is intuitive.

This efficiency is complemented by touches that enhance the atmosphere of the game without slowing it down. Twice every game year, for example, you compete in an archery tournament. It has almost nothing to do with the rest of the game, but it's fun and a welcome change of ►



Fight to free your compatriots.

pace. If you create the proper set of circumstances (I never have), you can attempt a daring rescue of captured comrades. The background string music fits well with the feel of the game.

A detailed combat mode allows you to form and place units on the battlefield, then guide them during the fight. This mode is so detailed that the computer players aren't bright enough to manage it—instead they opt for a simpler summary mode. In fact the computer players aren't much competition at all. They have little sense of important positions and no long-range plans, much like teenagers.

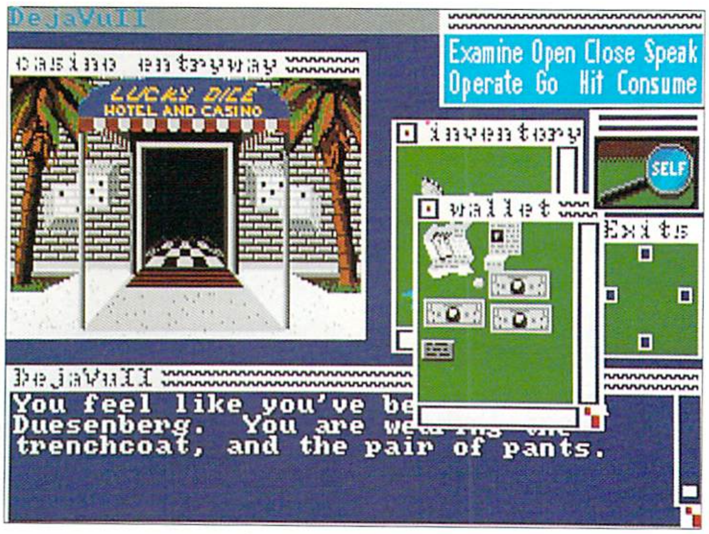
The game comes with two copy-protected disks and a short manual that could use some serious revision. It will run on 512K but requires one megabyte to support detailed battles and the music.

Kingdoms of England has its problems. It doesn't always recognize mouse clicks, for example, and huge battles can cause a nasty bug that makes the attacker nearly invincible. Generally, however, the game works smoothly and quickly, with little fuss and plenty to keep you interested. *($44.95, Incognito Software, 34518 Warren, Suite 149, Westland, MI 48185, 313/937-1850. No special requirements.)*

Déjà Vu II: Lost in Las Vegas

By Bruce Jordan

BATHROOMS ARE QUITE popular in the Déjà Vu series of graphic adventures. In this time in a disreputable hotel/casino called The Lucky Dice.



Trouble in a gambler's paradise.

Déjà Vu II: Lost in Las Vegas, as in the original, you find yourself soundly cudgeled and waking up in a bathroom—

As consciousness returns, you remember that the guy who got killed in the first game had dealings with a Vegas mobster named Malone. Now, someone has made off

with one hundred grand of Malone's money, and he thinks you have it. You have one week to come up with the dough, he says, "or else." Malone's henchman, Stogie Martin, is constantly watching you. Make one false move, and you're the target at the rifle range.

As with the previous game, Déjà Vu II is entirely mouse and gadget driven. By avoiding lengthy scripts and tedious typing, the game puts the action and graphics at center stage.

Déjà Vu II's plot is complex and exciting enough to keep the best adventure-game player boggled for weeks. On the humorous side, there's more than one anachronism in this period piece. (Do your research, Mindscape.) See if you can spot them.

If you consider yourself smart enough to outwit the mob, or enjoy living on the edge, or fancy yourself a big-time gambler, check out Déjà Vu II: Lost in Las Vegas. *($49.95, Mindscape, 3444 Dundee Rd., Northbrook, IL 60062, 312/480-7667, 800/221-9884. No special requirements.)*

Qix

By Roger Goode

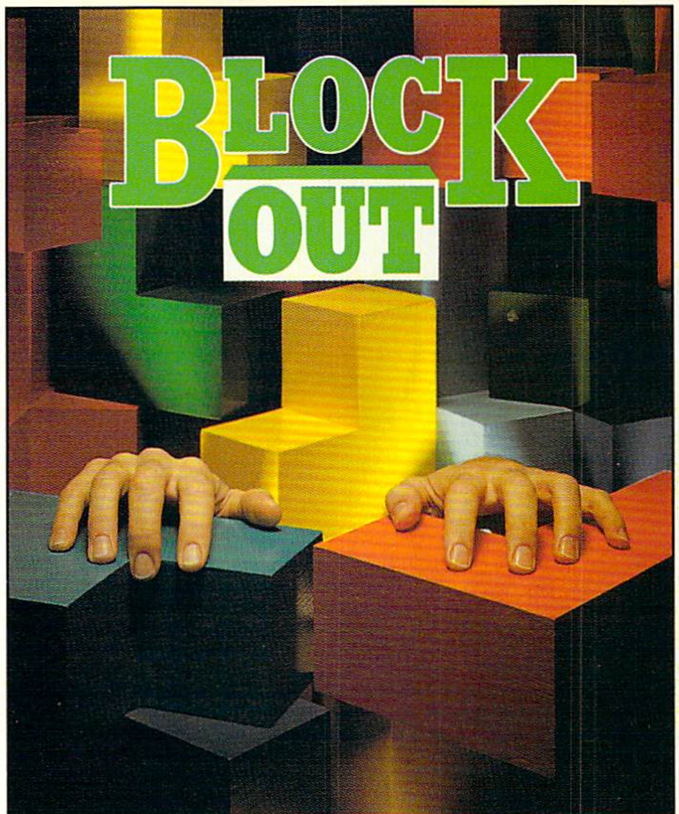
QIX INDUCES THE same white-knuckled, nerve-jangling frenzy in me that blast-fest games produce in my raster-eyed pals. I never shoot anything; however, I draw like a demon.

The game begins with a colorful, constantly moving helix (the Qix) bouncing inside the large, square playing area. With your joystick you move a diamond-shaped marker, drawing boxes inside the square until you trap the Qix in a confined area by boxing the rest of the screen. Control 65 percent of the screen with boxes and you win. For every controlled percentage over 65, you receive a bonus of 1000 points. Boxes completed entirely in slow-draw mode are worth twice as much as those using the fast-draw option. They are also twice as risky if the Qix is nearby.

You only have four lives, so be careful. If the Qix touches your marker or line, you get zapped. Sparx travel in ever increasing numbers around the perimeter of the screen, always following the lines of the boxes you've drawn and coming from both directions at once. The Fuse lives at the end of every line you start to draw. Once you begin a line, you are committed to finishing a new box. Should you stop or hesitate, the Fuse races down the line toward the marker. Your only hope is to complete the box before the Fuse catches you. Turn left into your box too many times and the Fuse will chase you down the Spiral Death Trap you created. That's your last life, Bunko, have you considered an easier game?

The pace gets faster and nastier on subsequent levels. Two Qix bounce around for starters. Close them into separate sections and your subsequent points are doubled. Level five brings Spritz, deadly snowflakes that float with the Qix. Capture one in a box and you get 500 points.

All in all, the game is an ac- ►



curate and exciting reproduction of the arcade original, complete with the rock score. Once you give it a try, you'll find that it's tough to Qix the habit. *($34.95, Taito Software Inc., 267 West Esplanade, North Vancouver, B.C., Canada, V7M 1A5, 604/984-3344. Joystick required.)*

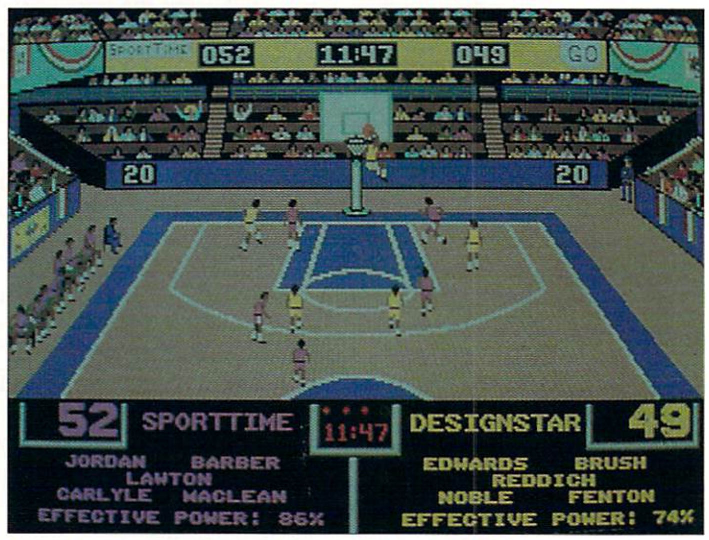
OMNI-PLAY BASKETBALL

By Rick Teverbaugh

IN OMNI-PLAY Basketball, the gravy takes precedence over the meat and potatoes. While you get the "Nick and Bob" pre-game show and halftime show for each game (you can fast forward past them), you must buy a separate module ($19.95) to print out stats for your team at the end of games. The viewpoint for the game is from an end seat about halfway up in the gym. If you want a side view, you'll have to buy a side-view module ($19.95). College and pro teams also come on separate modules.

What *is* included in the game is complex, detailed, and absorbing. You can take a team from expansion status to the World Championship. You'll need to be general manager, coach, and player to get the job done.

As the GM, you must decide which players to draft and whether to spend the 250 trading points that come with the new team on recruiting, sending players to training camp or trading them with other computer-controlled or human-run teams. Seasons run 5, 8, 13, 16, or 21 games, and you can control how long each playoff series will be.



General manage, coach, and play your team to victory.

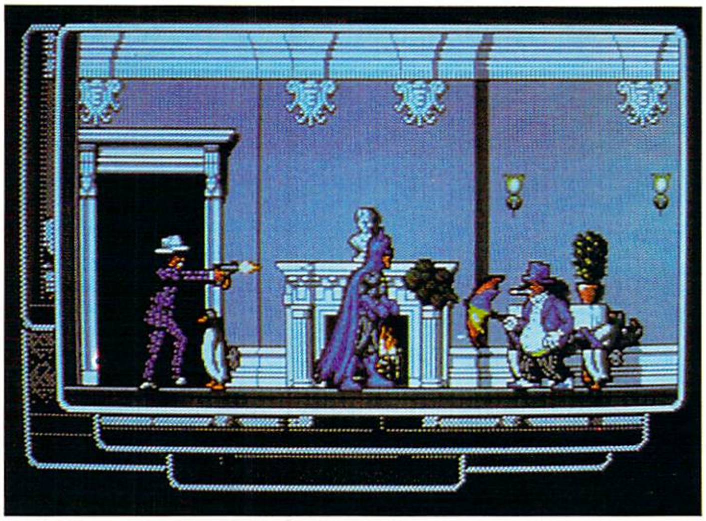
The game opens offering various strategy choices to offense and defense. You must make those decisions, control player substitution, pass, shoot, block shots, and double-team. The faint of heart can play three-, six-, or nine-minute quarters instead of the NBA 12. The game feels and sounds like the real sport.

Overall, Omni-Play Basketball rates high marks for the things it will do and very poor ones for the things for which it makes you pay extra. *($49.95, SportTime, 3187-G Airway Ave., Costa Mesa, CA 92626, 714/966-1311. Joystick required.)*

Batman, The Caped Crusader

By Dodson Yaple

YOU SIT IN front of the VCR watching tapes of the old Batman TV show, while perusing your collection of Batman comic books and munching on a snack from your Batman lunch box. But something is missing—you want a Batman computer game.



THWACK! BIFF! ZOWIE!

Data East's uninspired port barely qualifies. Batman is short on action and long on needless complication. Even simple object-grabbing requires you to shift to a cumbersome icon screen, where the only thrills are those of inventory management. Except for the costumes, there is no recognizable Batman ambience.

Batman does have an agreeably spare look, with decent, though unoriginal, graphics. Its two separate scenarios allow you to square off against the archvillain of your choice. These pallid virtues, however, do not offset the shortcomings of this careless port. Despite having four Amiga sound channels available, it cannot play its sound effects and theme music at the same time.

The obsolete interface is clumsy and unforgiving, and when you try to quit, the DOS-based copy-protection causes your drive to emit scary, unfamiliar noises that don't stop until you switch off your computer.

Worst of all, the game regularly requires you, as Batman, to pick things off the street and eat them—a nasty piece of business that young Bat-fans might imitate. Holy stomach-pump, Batman, warm up the Bat-ambulance! *($44.95, Data East USA Inc., 470 Needles Ave., San Jose, CA 95112, 408/286-7074. Joystick required.)* ■

from p. 16
sonalized documents, such as form letters. When it comes time to print, you can select draft or NLQ mode without having to go into the Workbench's Preferences screen. (Scribble! uses a pull-down menu for this option, while Protext uses typed commands.)

Finally, both programs can tally the word count in a document. Protext displays the total along with other statistical information on its Status line, located at the top of the screen. With Scribble! Platinum, you must select Info (equal to Status in the original Scribble!) from the Project menu, to see the word count, page length, margins, and other format information.

Only You, Protext

While these programs share capabilities, each has a number of features that differentiate it from the other. One of Protext's strongest points is its time-saving macro capability, which lets you save a series of keystrokes and recall them by pressing one key. For example, you might design a macro that types your address and phone number at a designated place on the screen whenever you press ALT-R. Protext provides some predefined macros, as well, including one that swaps inverted characters. If you accidently type "wya" instead of "way", simply place the cursor on the y and press CTRL-A to correct the mistake.

Protext's Place Markers, which you imbed in a document, allow you to move between sections of text with one keystroke. Multiple Markers insert text into a document at print time; other markers ignore the spelling of a particular word, or index specific words and phrases.

Foreign language accents and characters (umlaut, tilde, and so on) are available for characters supported by the IBM character set. A special Line Drawing Mode lets you produce Line Graphics with IBM compatible printers.

In addition to the regular Tab function, Protext lets you select Decimal Tab for aligning numbers to the left and right of a decimal point. The Decimal Tab function can be configured to accommodate the use of the comma in place of the decimal point.

Although Protext lacks a complete auto-hyphenation feature, it does supply a Soft Hyphen. This you enter manually to show where the formatter may hyphenate a word if it is reformatted to appear at the end of a line. There are also provisions for Non-Break Spaces and Non-Break Hyphens.

Just Scribbling

A big plus in Scribble!'s corner is its Thesaurus. Invoking it brings up a screen displaying the word you want to replace, its part of speech (adjective, for instance), the first of its definitions, and a number of possible replacement words. Selecting Next lets you view the second definition (if there is one) and lists the possible substitutions for that meaning. The thesaurus can suggest replacements for each word on the substitution list as well, making your list of choices almost endless.

One of Scribble!'s handiest features is Quick Save, which allows you to update documents simply by pressing F4. Because Quick Save writes over the existing file, you'll still have to call up the Save screen if you wish to keep different versions of the same document.

Scribble! Platinum employs a typed Dot command to insert IFF images into documents. Graphics will not appear on screen, but will be included in your hard copy, provided you are using a graphics-compatible printer. If you spot an error, use the Abort Printing command (ESC) to stop your printer in its tracks.

You can customize Scribble! windows by selecting up to eight screen colors, horizontal or vertical overscan, or interlaced mode. Also, you can choose whether or not icons are generated for each document.

What'll It Be?

Scribble! Platinum and Protext are two powerful word processors geared toward different audiences. If you prefer the CLI environment, the straight-forward, no-nonsense Protext is probably for you. MichTron states clearly that you will get more out of the program using it in Command Mode. Protext's 300+ page manual is very detailed, but it rarely refers to the pull-down menu commands. It also lacks diagrams of any type, and is often difficult to follow. With time, anyone could learn to use Protext, but it seems best suited for more experienced users.

Scribble! Platinum, on the other hand, is a good choice for less experienced and younger users. Operating in the Workbench environment, with point-and-click commands, it is easy to learn and use. Scribble!'s manual includes plenty of screen diagrams to complement the written explanations. The graphic elements—such as a camera for Copy mode and scissors for the Cut function—make it difficult to perform the wrong operation. Experienced typists will appreciate Scribble!'s many keyboard equivalents.

Both programs do their jobs quite well, and neither will let you down.

Scribble! Platinum Edition
Micro-Systems Software
12798 W. Forest Hill Blvd.
Suite 202
W. Palm Beach, FL 33414
407/790-0770
$149.95
No special requirements.

Protext
MichTron
576 S. Telegraph
Pontiac, MI 48053
313/334-5700
$199.95
No special requirements.

MINIGEN

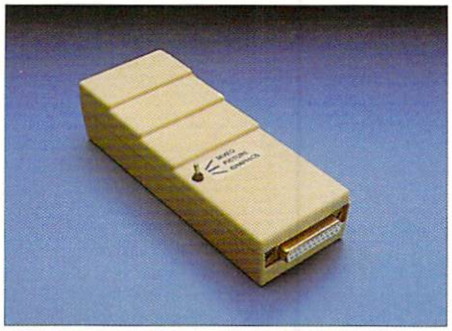
Small size, puny price, big results.

By Wayland Strickland

PROGRESSIVE PERIPHERALS AND Software, makers of ProGEN, now offer another genlock for the Amiga. MiniGEN, a tiny $6^1/_4 \times 1^1/_2 \times 2^1/_4$-inch box, has only three connection points. On one end of the unit are two female RCA connectors through which the unit receives external video (from a camera, VCR, or some other source) and sends a composite video signal for use by a VCR or monitor. On the other end, a female 23-pin D connector joins the genlock directly with the Amiga's RGB port. This setup eliminates the need for cables, but may present problems in tight quarters,

as it requires you have a seven-inch clearance space behind the computer. It can also make for somewhat awkward switching between output modes: A toggle on the top of the unit lets you select graphics only, external video only, or mixed (graphics overlayed on video).

The unit lacks the usual RGB port loop-through, which sends video directly



miniGEN is small but mighty.

from the Amiga to the monitor. While a loop-through (or a second video output) would probably increase miniGEN's cost, its absence renders the RGB monitor virtually useless. One way around this is to connect the genlock's composite video out to the monitor's composite video in. This allows you to see what you are doing, but is not a cure-all, as the Amiga monitor does not have a loop-through, either. To record under this arrangement, you must disconnect the video line and reconnect it to your VCR.

Lasting Impression

I had some doubts about miniGEN when I removed the unit from its package and the top half of the plastic shell came off in my hand. You cannot judge a genlock by its cover, though, and I am pleased to report that miniGEN performed remarkably well.

Without an external video source, miniGEN's output video is unusable, so you must connect a camera, VCR, tuner, or blackburst video signal to the external video input. This configuration will shorten the life of the tube in a tube-type video camera, but has no other detrimental effects. I tried miniGEN with all these sources and had no difficulty.

The results you get from a genlock depend greatly on the reference signal. If you use a videotape with oversaturated chroma, for example, the genlock will ►

adjust the Amiga's graphic output accordingly. The same is true for video levels and sync. (To get the best reference signal from a videotape, record in the fastest speed possible.)

To test miniGEN, I input a blackburst video signal from a Grass Valley RS170A reference sync generator, which provides a stable video source. (Consumer cameras and videotape machines without time-based correctors tend to drift.) The input consisted of sync -40 IRE (a video-level measurement developed by the Institute of Radio Engineers), burst 20 to -20 IRE, setup 7.5 IRE, and chroma 40 to -40 IRE. I used two sets of color bars for the tests. With a waveform monitor and vectorscope, I created one set based on the composite video output of SuperGen (Digital Creations). The other set came from the disk packaged with miniGEN.

The genlock's performance changed slightly depending on which output mode was selected. All modes reported sync (which sets the stability of the video signal) at -35 IRE. While sync should, as a rule, be -40, this is not too far off. According to FCC ruling, the setup level (similar to the brightness control on a television set) should be 7.5 IRE. Some situations may dictate that setup be higher (setup in both Picture and Mixed modes is 10), but the only time it should be lower is when a video signal is to be keyed via a switcher. This is not the case here, although setup in Graphics mode comes in at 5 IRE.

The remaining levels were within tolerance. Graphics mode yielded burst at 23 to -23, white bar at 90, and chroma at 40 to -40. In Picture mode, a slight horizontal phase shift appeared and the reference blackburst video was altered a bit from input. I measured burst at 20 to -20, and chroma at 40 to -40. In Mixed mode, wherein the reference video becomes a background onto which Amiga graphics are overlayed, miniGEN produced these results: burst 20 to -20, white bar 90, and chroma 40 to -40 IRE.

Support Crew

The disk packaged with miniGEN contains several test IFF pictures, and a program called SetLace, which triggers interlaced mode when the genlock is attached. (A1000 models interlace automatically when you connect a genlock, but A500s and A2000s do not.) The 14-page manual describes how to connect and operate miniGEN, and includes some technical information and tips to help you deal with any problems you may encounter.

The output signal from miniGEN was surprisingly good, and ringing occurred around hard edges only when I used a second-generation VHS tape as reference video. MiniGEN does have drawbacks, the biggest being its lack of an RGB loop-through. Nevertheless, it is a good deal for a very reasonable price.

miniGEN
Progressive Peripherals & Software
464 Kalamath St.
Denver, CO 80204
303/825-4144
$199.95
No special requirements.

MyPaint

Dinosaurs Are Forever

Painting for pre-schoolers—

without a mess.

By Tim Walsh

AS THE FATHER of two not-ready-for-recess-time computerists, I am interested in packages such as MyPaint and Dinosaurs are Forever. Both are computerized coloring books, with MyPaint offering a drawing option, and Dinosaurs providing information on prehistoric beasts.

No Experience Necessary

Getting started with MyPaint (Prism Computer Products) is simple, and requires no reading skills or computer ►

knowledge. Large, clearly-defined letters and icons make it easy for youngsters to be creative. The work area is bordered by animated icons that enhance the program's design. These include a moving eraser for clearing the screen, and a man's head shaking side to side representing the Oops! (undo) option. Unfortunately, though, the palette consists of only 12 non-adjustable colors.


MyPaint's large icons are easy for youngsters.

You can start by either loading a black-and-white outline image from disk or by drawing on the blank screen. MyPaint contains 28 pictures on a variety of subjects, and Prism offers additional data disks ($29.95 each) including one for the alphabet and another for numbers. Digitized voices and sound effects accompany each graphic image on disk; simply click the mouth icon to hear the current picture's sound.

Drawing and coloring is done with the mouse, which should not be a problem for any child able to draw with crayons. Children can draw and color with either the small brush, which draws a fine line, or with the big brush, which renders a thick line. The mirroring option mirrors whatever is drawn. The Fill-em-up tool fills a selected area with color and guarantees staying within the lines. Flashing colors cycles the palette colors on the picture. Kids can save their pictures in IFF format.

Pressing the Help key starts an arrow circling the screen, explaining the functions of each icon and object both verbally and in text form. Once the help process begins, however, there's no stopping until it is finished. Because the voice uses Amiga speech, it is so difficult to understand that it is practically useless.

Four-year-old Timothy and five-year-old Elizabeth experienced no problems with MyPaint, beyond arguing who would use it first. Both found the digitized sounds entertaining and the large icons easy to use. Elizabeth's biggest complaint was the lack of a bright orange color on the palette.



You can mix and change colors on the Dinosaur palette.

No function was particularly difficult for either child to master. Familiarizing myself with the program before turning it over to them was beneficial, though, and something I would recommend to other parents.

BEYOND EXTINCTION

By the same token, previewing Dinosaurs Are Forever will make a pleasant experience out of teaching your kids to use it. This educational coloring program contains images, names, and descriptions for 26 different beasts. Digitized sound, reminiscent of frenzied pigs being herded with cattle prods, accompanies the loading of each black-and-white low-resolution drawing.

The 24-color palette has provisions for mixing and adjusting individual colors, and coloring is done with the mouse. Each image is saved to disk as the next image is accessed, so when a previously colored image is loaded, the colors are applied once the image appears. Because of this rather odd procedure, it's an absolute necessity to work with a copy of the program disk to prevent unintentional coloring of the master images.

Dinosaurs Are Forever does not allow children to create images of their own design for coloring. Unlike MyPaint, there are no brushes available for detail work; the coloring function works in a delayed fill mode. Once the child selects an area to fill and a color and presses the mouse button, there's a brief delay. Then the selected area instantly fills with color.

A pull-down menu offers various print options. You can output an image by itself, above a calendar (stickers are provided to mark special days), accompanied by a personalized message or a description of the dinosaur, or as a banner (a variety of fonts are available for text). The program includes a transparent color printer driver for output to a color printer.

HERE COME THE JUDGES

Based on her expressions and level of attentiveness, Elizabeth found Dinosaurs Are Forever less exciting and more complicated than MyPaint. Its physically smaller palette and smaller pointer make the program more difficult to use, and without animation, there's not as much happening on the screen as in MyPaint.

Timothy, conversely, stated that he preferred Dinosaurs Are Forever. I think he based his opinion on subject matter and sound effects. As with Elizabeth, he experienced no major difficulty in using Dinosaurs Are Forever, but tended to ask for more assistance in accessing its features than he did with MyPaint.

While the packaging recommends Dinosaurs Are Forever for children ages three and up, the names of the animals and their descriptions are well beyond the reading abilities of most three-year-olds. Lacking the smooth, polished execution of MyPaint, the Dinosaurs interface seems like an afterthought (Dinosaurs is a port from other formats). Better programs exist for making calendars and banners and for painting, and I cannot recommend Dinosaurs Are Forever as an educational tool because the information on each animal is so brief. For fun and creativity, MyPaint is the better of the two programs. ►

MyPaint
Prism Computer Products
Distributed by Centaur Software
14040 Tahiti Way, Suite 528
Marina Del Rey, CA 90202
213/821-5995
$49.95
No special requirements.

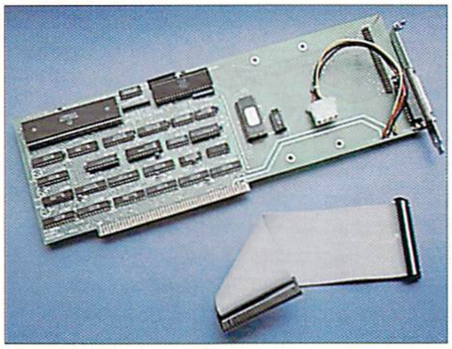
Dinosaurs Are Forever
Merit Software
13635 Gamma Rd.
Dallas, TX 75244
214/385-2353
$39.95
No special requirements.

OVERDRIVE

Dashing through the data with an autobooting DMA controller . . .

By Louis R. Wallace

PACIFIC PERIPHERALS' OverDrive is



Shift to autoboot with OverDrive.

an internal SCSI hard-disk controller for A2000-series machines that allows daisy chaining of up to seven hard disks. The company sells OverDrive either by itself or in hard-card format with a hard disk attached (several configurations are available).

Based on the TrumpCard (Interactive Video Systems), OverDrive is enhanced by a faster Motorola 68440 DMA controller. Also, it now supports direct autobooting on Amigas equipped with 1.3 Kickstart ROMs. To update OverDrive models not equipped with the autoboot feature, Pacific Peripherals sells a daughterboard ($25) that mounts on the card without blocking the hard-drive space.

ON AND UP

If you buy an OverDrive hard card, installation is as simple as inserting it into a slot. Even if you buy the card separately (purchased this way it comes with mounting bolts and plastic standoffs), getting it together is fairly straightforward.

Once you have installed OverDrive, boot with the supplied floppy disk and specify the type of drive you are using and its device number via the menu on screen. Then format the drive, have the software check for bad blocks, and finally, write data to the drive.

The installation software, somewhat a hybrid of Workbench 1.2 and 1.3, modifies the mountlist automatically. While this is not the best hard-disk installation software I have used, it is not the worst either, and if you follow the documentation, the process is not difficult.

I tested a daughterboard-equipped OverDrive and found that it autoboots as

YOUR TURN!

OverDrive was rushed to market as a DMA hardcard. Design was not completed. I was never able to get either of two boards to work.

—John Boulle
Chicago, IL

promised. It came mounted with a 40-meg Quantum hard disk.

I ran speed trials using DiskPerf 2.0 and PerfTest 1.1, two standard hard-drive testing programs. All results, clocked in seconds, were quite consistent. DiskPerf reported 342K read and 190K write times per second. On the standard PerfTest run, OverDrive turned in a read result of 332K and a write time of 186K. PerfTest can also test drive performance while an overscanned high-resolution 16-color interlaced screen is displayed, a condition under which SCSI controllers usually exhibit speed degradation. Not surprisingly, the OverDrive slowed to times of 145K reading and 80K writing under these conditions.

OverDrive seems to offer a decent level of performance for a reasonable price. The hard-card configuration is very convenient, and while the installation software is not exciting, it gets the job done without requiring much effort.

OverDrive
Pacific Peripherals
46728 Fremont Blvd.
PO Box 14575
Fremont, CA 94538
415/651-1905
$249.95
$699.95 with 40-meg drive
No special requirements.

City Desk 2.0

Save some for laser.

By Nancy Devitt

BECAUSE IT OFFERED a level of control previously unavailable in Amiga desktop publishing, the original City Desk made a big splash. Its heyday was short, however, due to its lack of a word processor, its rudimentary graphics editor, and most importantly, the fact that it did not allow you to see on screen what your printed output would look like.

Now, City Desk is back with version 2.0. Like a friend you haven't seen in years, you will find that although it has been through some changes, it is still the same in many ways. The look is similar and some of the old faults are there, but City Desk 2.0 includes new tools that make it especially useful to owners of Hewlett Packard-compatible laser printers.

Laser Luck

A shortcoming of most Amiga desktop-publishing software is difficulty in accessing either the Hewlett Packard cartridge fonts or the widely available and more economical "soft" (downloadable) fonts. Previously, to achieve the crisp 300 dot-per-inch (dpi) resolution of which their printers are capable, HP laser printer ►

owners had to either use PageStream's (Soft-Logik) proprietary fonts or save their output as a PostScript file and employ an additional page-description language like PixelScript (Pixelations) to interpret it for their printers.

> ### YOUR TURN!
>
> City Desk 2.0 is fine for first-time users, and offers good improvements. Its manual is revised and expanded, but does not document the font-downloading utility thoroughly. A serious omission is lack of backward file compatibility—the ability to accept City Desk 1.0 files. MicroSearch provides good telephone support.
>
> —*Darryl Nicholas*
> *Millersville, PA*

City Desk 2.0, however, offers a direct route to PostScript. Not only does it recognize all HP Series I and II cartridge fonts, but it also includes a utility that lets you download fonts into your printer's memory. In addition, this utility generates PostScript fonts from fonts in your existing directory in different sizes, or in bold, italic, or bold italic.

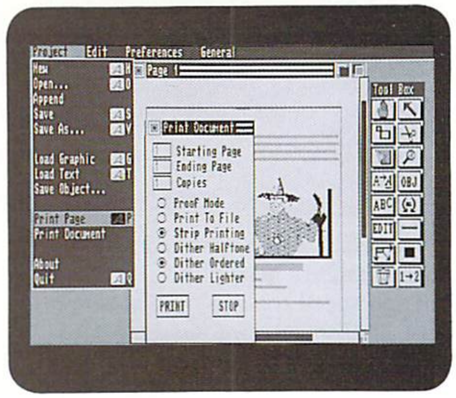
One bad trait left over from its original incarnation is City Desk's non-WYSIWYG (What You See Is What You Get) screen display. All font selection and formatting is accomplished through embedded text commands, an awkward process that seems primitive compared with other methods.

Dot-Matrix Mayhem

While City Desk solves problems for laser printer owners, it presents difficulties for dot-matrix owners.

PostScript and other laser fonts follow the typographical point-measurement system (one point equals $\frac{1}{72}$ of an inch). In the case of bitmapped Amiga fonts, however—which are your only option for printing on a dot-matrix device—a point refers to one on-screen pixel, whose height and width are not fixed but determined by screen resolution.

To produce the standard spacing of six print lines per inch using laser fonts, you would select a 12-point font size. To achieve the same spacing with a dot-matrix device at a print resolution of 180 dpi, however, requires that you use a 30-



Print: on trial.

point bitmapped font. This presents a potential problem in terms of memory, as a 30-point font set occupies approximately 68K. The 90-point font required for a half-inch headline at this resolution would consume more than half a meg.

Another problem related to printing is that while most recent desktop-publishing software provides an easy means of scaling the printout relative to screen resolution, City Desk 2.0 does not. Font resizing must be done from within the body of the text using the Mag command, which can involve some fairly complicated mathematics. The results of this process are sometimes unpredictable, and because City Desk 2.0 does not show text on screen as it will output on paper, a number of trial printouts may be required.

No is ARP

City Desk 2.0 comes with a loose-leaf manual and four disks. A tutorial videotape, which comes packaged with two clip-art disks, is available for an extra $29.95. The software is not copy-protected and a hard-disk installation file is included. Although the program requires the file arp.library, the manual warns that if you are already using ARP (the AmigaDOS Replacement Project) commands, the installation utility will not work. In spite of the widespread use of the ARP commands and the fact that this constraint could cause difficulty, no detailed instructions for manual installation are given. (Hard-disk owners with ARP installed can get around this problem by ►

B A C K T A L K

CANDID RESPONSES TO *AMIGAWORLD* REVIEWS

PlotPrint (Hi-Tech Graphics)

I agree that the documentation for PlotPrint (reviewed by Stephen Ellerin in the July '89 issue) is very hard to understand, but feel that the program itself is excellent. After much reading of the manual and quite a bit of experimenting, I can now produce an excellent plot of any drawing with virtually no distortion.

—***Edward H. Haskell***
Escondido, CA

PlotPrint provides far better print resolution than what appears on screen: It can deliver up to nearly 5000 dots across on a wide-carriage printer at 360 dpi, and 3120 dots on an Epson-type printer. While it is true that you must experiment with scaling factors, it is impossible to automatically scale HPGL output for printers. Furthermore, when PlotPrint takes 12 minutes to output the same drawing Draw 2000 (Aegis) prints in 10, PlotPrint is outputting at least twice as many dots.

—***Michael J. Keryan***
Hi-Tech Graphics

PageStream (Soft-Logik Publishing)

PageStream (reviewed by Chris Dickman in the July '89 issue) has been designed to support the complete range of printers from 9-pin dot-matrix to downloadable and built-in PostScript fonts. Our font disk A ($39.95) contains screen fonts, font metrics, and PostScript header files to support all 35 Apple Laserwriter+ fonts at the maximum resolution of the printer. ►

assigning SYS: to the drive in which the City Desk main program disk resides.)

City Desk 2.0 is Intuition-based and offers both pull-down menus and key commands for all functions. Because it still includes only minimal word-processing and graphics support, the publisher recommends multitasking with a dedicated word processor and a paint program at a resolution of 640×2 in two colors. Given the program's memory requirements, however, multitasking is not always feasible. City Desk 2.0 would not load on my three-meg A2500 with WordPerfect running, for instance, and I was unable to print the one-page tutorial example in dot-matrix mode without rebooting—even though no other programs were in memory. On my one-meg A500, attempts at dot-matrix printing caused repeated guru visits (with my HP compatible, however, the program worked fine).

Pages are limited to standard letter size, and the program does not support color printers. A utility is included to convert any color IFF graphic with 64 or fewer colors to 16 shades of gray. The manual recommends processing pictures of more than 64 colors with various commercial programs.

MicroSearch is to be complimented for being the first to recognize the popular and affordable Hewlett Packard lasers and their compatibles. Let's hope this is the beginning of a trend. Compared with other Amiga desktop-publishing programs, however, and with those available for other computers, City Desk's embedded formatting, its lack of color capability, its non-WYSIWYG text, and the limitations regarding page size are unacceptable. Unless you need its laser utilities, I'd pass it by.

City Desk 2.0
MicroSearch Inc.
9896 S.W. Freeway
Houston, TX 77074
713/988-2818
$199.95
One megabyte required. ■

ANIMATION AND TITLING

- 3-Demon ... 69.47
- Animate 3D ... 104.22
- Animator w/Images ... 42.00
- Animator: Apprentice ... 182.00
- Animator: Jr. ... 54.91
- Broadcast Titler ... 193.00
- Deluxe Video 1.2 ... 90.32
- Director, The ... 48.62
- Director's Toolkit ... 24.33
- Easy Titler ... 31.88
- Fantavision ... 41.67
- Forms in Flight II ... 83.37
- Movie Setter ... 69.47
- Page Flipper Plus F/X ... 102.00
- Pro Video Plus (Gold) ... 193.00
- Sculpt-Animate 4D ... 391.00
- Sculpt-Animate Jr. ... CALL
- TV*Text ... 55.00
- VideoScape 3D ... 109.00
- V.I.V.A. ... 109.00
- Zoetrope ... 88.00

BUSINESS & HOME MANAGEMENT

- 2+2 Home Management ... 69.47
- Accountant, The ... 186.50
- Acquisition ... 193.00
- Analyze 2.0 ... 69.47



"Getting Started with Your Amiga" (VHS only)—$29.95
The *Video Tape* all about your Amiga!

- Excellence ... 159.00
- File II ... 69.47
- Financial Plus ... 193.00
- Haicalc ... 41.67
- Investor's Advantage ... 64.47
- Logistix ... 103.56
- Maxiplan 500 ... 93.25
- Microfiche Filer Plus ... 115.99
- Money Mentor ... 59.00
- Organize ... 55.57
- Paymaster Plus ... 104.22
- Phasar 3.0 ... 62.29
- Rollabase Plus ... 62.52
- Superbase Personal II ... 98.00
- Superbase Prof. 2.0 ... 243.22
- Superplan ... 98.00
- Tax Break ... 55.57
- VIP Professional ... 104.22
- Works Platinum, The ... 205.69
- Write N File ... 69.47

CAD & MODELING

- Aegis Draw ... 50.00
- Aegis Draw 2000 ... 169.00
- Design 3D ... 69.47
- HomeBuilders CAD ... 138.31
- IntroCAD ... 51.00
- Logic Works 2.0 ... 189.00
- Modeler 3D ... 69.47
- Sculpt 3DXL ... 125.07
- Ultra CAD ... 173.72

WORD PROCESSING

- Beckertext ... 104.22
- Calligrapher 1.05 ... 90.32
- Critic's Choice (3 in 1) ... 173.72
- Dynamic Word ... 104.22
- Gold Spell II ... 31.24
- Kindwords 2.0 ... 64.47
- Pen Pal ... 104.22
- ProScript ... 31.88
- ProWrite 2.0 ... 77.00
- Scribble! Platinum ... 104.22
- Text Pro ... 55.57
- TextEd Plus ... 55.57
- Word Perfect 4.1 ... 179.00
- Write 'n File ... 69.47
- Zing! Spell ... 55.57

We'll meet *or beat* any advertised price in this issue of this magazine!*

EDUCATIONAL

- AB Zoo ... 24.00
- Algebra I ... 32.25
- All About America ... 38.95
- Birds & Bees ea. ... 41.67
- Calculus ... 31.88
- Chicken Little ... 18.82
- Decimal Dungeon ... 32.25
- Designasaurus ... 32.25
- Dinosaur Discovery Kit ... 25.77
- Dinosaur Data Disk ... 14.00
- Discrete Math ... 31.88
- Doug's Color Commander ... 24.25
- Doug's Math Aquarium ... 55.57
- First Letters & Words ... 33.00
- First Shapes ... 33.00
- Fraction Action ... 32.25
- Galileo 2.0 ... 45.00
- Ghostly Grammar ... 31.88
- Grade Manager ... 58.95
- Great States II ... 25.00
- Kidtalk ... 25.77
- Kinderama ... 32.25
- Learning Curve ... 51.95
- Linkword Languages ea. ... 20.50
- Little Red Hen ... 20.82
- Match-It ... 25.99
- Math Talk/Fractions ea. ... 26.99
- Math-A-Mation ... 64.95
- Mavis Beacon Teaches Typing ... 31.24
- Pre Calculus ... 31.88
- Quiz Master ... 49.90
- Read-A-Rama ... 31.88
- Social Studies ... 13.87
- Space Math ... 29.99
- Spellbound ... 25.50
- Talking Animator ... 39.00
- Talking Coloring Book ... 24.25
- Three Little Pigs ... 20.82
- Trigonometry ... 36.88
- Word Master ... 32.50
- World Atlas ... 41.67

FONTS & CLIP ART

- Arch. Design Disk-Sculpt/VScape ... 23.00
- Art Gallery Disk ... 23.00
- Asha's CalligraFonts ... 62.52
- Broadway Font ... 34.75
- Business Set ... 55.60
- CAD Parts for IntroCAD/Draw ... 48.65
- Clip Art #1-8 ea. ... 13.84
- ComicSetter-Funny/Scifi/Heros ea. ... 23.00
- Design Disks-Sculpt/VScape ea. ... 23.00
- Designer Databases-Bus./Home ea. ... 48.62
- Fonts & Borders ... 24.25
- Future Design Disk-Sculpt/VScape ea. ... 23.00
- Helvetica Font ... 34.75
- Homebuilders ea. ... 56.30
- Human Design Disk-Sculpt/VScape ea. ... 23.00
- Interchange Objects #1 ... 15.99
- Kara Fonts-Headlines ... 51.00
- Kara Fonts-Headlines 2/Subheads ea. ... 48.62
- Lion's CalligraFonts ... 41.67
- NTF Fonts-Comic/Fancy/Roman/Sans ea. ... 55.57
- P.S. Dot Matrix Font Disk 1-5 ea. ... 25.77
- P.S. Postscript Font Disk A-C ea. ... 25.77
- ProFonts Vol. I/II ea. ... 23.00
- Studio Fonts ... 30.00
- Times Roman Font ... 34.75
- Zuma Fonts 1-4 ea. ... 23.00

GAMES

- 4th and Inches ... 29.00
- Aaargh! ... 23.00
- Adventures of Sinbad ... 32.00
- Afterburner ... CALL
- Alien Syndrome ... 33.00
- Android Decision ... 24.33
- Andromeda Mission ... 25.75
- Applo 18 ... 31.24
- Arctic Fox ... 25.77
- Arkanoid ... 19.99
- Art of Chess ... 22.29
- Autoduel ... 27.00
- Axe of Rage ... 31.88
- Baal ... 23.00
- Bad Dudes ... 31.24
- Balance of Power II 1990 ... 31.88
- Ballyhoo ... 25.77
- Bards Tale ... 35.99
- Bards Tale II, Destiny Knight ... 41.50
- Batman ... 31.00
- Battle Chess ... 32.25
- BattleDroidz ... 23.00
- Battletech ... 32.50
- Berzerk 3 ... 23.00
- Better Dead Than Alien ... 21.89
- Black Jack Academy ... 25.77
- Black Shadow ... 22.29
- Blasteroids ... CALL
- Blitzkrieg Ardennes 1mb ... 38.95
- Blockout ... CALL
- Bomb Busters ... 20.82
- Borrowed Time ... 31.24
- Bowling ... 13.84
- Breach ... 25.77
- Bridge 5.0 ... 23.00
- Bubble Bobble ... 22.77
- California Challenge ... 16.99
- California Games ... 25.77
- Capone ... 25.77
- Captain Blood ... 32.32
- Carrier Command ... 30.24
- Casino Fever ... 25.77
- Champ Baseball/Golf ea. ... 25.77
- Champ Basketball/Football ea. ... 31.24
- Charon 5 ... 25.77
- Chessmaster 2000 ... 32.25
- Chrono-Quest ... 33.72
- City Defense ... 13.84
- Combat Course ... 25.77
- Craps Academy ... 25.77
- Crash Garrett ... 25.77
- Crazy Cars ... 25.77
- Creature ... 25.77
- Crossword Creator ... 31.88
- Cyber Complex ... 23.00
- Deathbringer ... 25.77
- Deep Space ... 20.82
- Defcon 5 ... 25.77
- Defender of the Crown ... 31.88
- Deja Vu I/II ea. ... 31.88
- Descartes ... 23.00
- Destroyer ... 25.77
- Devon Aire Hidden Dia ... 31.88
- Dominos ... 17.34
- Double Dribble ... 25.77
- Downhill Challenge ... 23.00
- Dragon's Lair ... 41.67
- Dragon Force ... CALL
- Dream Zone ... 32.00
- Dungeon Master ... 31.88
- Earl Weaver Baseball ... 31.88
- EbonStar ... 25.77
- Echelon ... 31.24
- Elite ... 31.24
- Empire ... 31.88
- F-15 Strike Eagle ... CALL
- F/A-18 Interceptor ... 31.88
- Faery Tale Adventure ... 31.88
- Falcon F-16 ... 31.88
- Federation ... 31.88
- Ferrari Formula One ... 31.88
- Feud ... 13.87
- Final Assault ... 25.77
- Final Mission ... 23.00
- Fire and Forget ... 25.77
- Fire Power ... 17.34
- Fire Zone ... 23.00
- Flight Path 737 ... 17.34
- Flight Sim.-Scenery Disks ea. ... 17.34
- Flight Simulator II ... 31.88
- Fortress Underground ... 13.87
- Foundation's Waste ... 23.00
- Fright Night ... 25.77
- Galactic Conquerer ... 31.24
- Galactic Invasion ... 17.34
- Galaxy Fight ... 17.34
- Ganymeds ... 20.82
- Gauntlet ... 31.88
- GBA Basketball-2 on 2 ... 31.24
- Gee Bee Air Rally ... 25.77
- GFL Champ Football ... 13.87
- Gladiator ... CALL
- Global Commander ... 25.77
- Gnome Ranger ... 13.87
- GO for the Amiga ... 25.77
- Gold Medal Volleyball ... CALL
- Gold of the Realm ... 25.77
- Gold Rush ... 25.77
- Golden Pyramid, The ... 13.87
- Goldrunner I/II ea. ... 25.77
- Grand Slam Tennis ... 31.88
- Grid Start ... 17.34
- Into the Eagle's Nest ... 25.77
- It Came From The Desert ... CALL
- Jack Nicklaus' Golf ... 31.88
- Jet ... 31.88
- Jinxter ... 25.77
- Joker Poker ... 24.72
- Journey to Center Earth ... 25.77
- Kampfgruppe ... 41.67
- Karate Kid II ... 25.77
- Karting Grandprix ... 17.34
- Kikugi ... 18.00
- King of Chicago ... 31.88
- King's Quest ALL ea. ... 31.88
- Lancelot ... 28.00
- Land of Legends ... CALL
- LeatherNeck ... 25.77
- Leisure Suit Larry ea. ... 25.77
- Letters to You ... CALL
- Lord of the Rising Sun ... 31.88
- Lottery Magic ... 17.34
- Lurking Horror ... 25.77
- Mad Libs ... 13.84
- Magic Johnson's Bktball ... CALL
- Maniax ... 17.34
- Marble Madness ... 32.25
- Master Ninja: Shad. War. ... 31.00
- Mean 18 ... 31.24
- Mega Pinball ... 25.77
- Metal Gear ... 25.77
- Mind Shadow ... 31.24
- Mind Walker ... 31.88
- Moebius ... 41.67
- Neuromancer ... 31.88
- New York Subway ... 25.77
- Ninja Mission ... 13.87
- Obsession ... 20.82
- Offshore Warrior ... 25.77
- Ogre ... 20.82
- One-on-One ... 13.87
- Oo-Topos ... 13.87
- Out Run ... 31.88
- P.O.W. ... 25.77
- Paladin ... 25.77
- Parachutes at Kanev ... 25.77
- Phantasie III ... 25.77
- Phantasm ... 23.00
- Pinball Wizard ... CALL
- Pioneer Plague ... 25.77
- Platoon ... 31.24
- Police Quest I ... 31.88
- Populous ... 31.88
- Ports of Call ... 16.99
- Powerdrome ... 25.77
- Pub Games ... 23.00
- Q-Ball ... 20.82
- Qix ... 25.77
- Questron II ... 31.88
- Racter ... 31.24
- Rambo III ... CALL
- Rastan ... CALL
- Realm of the Warlock ... 23.00
- Renegade ... 25.00
- Return to Atlantis ... 32.00
- Ringside ... CALL

SUPRA SPECIALS!

Hard card for Amiga 2000 (with Wordsync™ interface – includes 2 disks of software, compatible with Bridgeboard™)

- – 30 MEGS ... 499
- – 45 MEGS ... 599
- – 80 MEGS ... 899

A500 SCSI Interface $159

- A500 20 Meg HD ... 440
- Above with 2 Megs RAM ... 690
- Supra Modem 2400 baud internal ... 99
- A2000 RAM boards (exp. to 8 MEGS) – 2 MEGS ... 299
- – 4 MEGS ... 449
- – 6 MEGS ... 601
- – 8 MEGS ... 751

SupraRam™ 500 512K w/clock $88

OTHER SPECIALS

- A.I.R. internal 3.5″ drive ... 125
- Master 3A external drive ... 118
- A.S.D.G. dual serial port board ... 222

- Gridiron ... 41.67
- Guild of Thieves, The ... 31.24
- Gunship ... 36.97
- Hacker II ... 25.77
- Harpoon ... CALL
- Harrier Combat Sim. ... 31.88
- Heavy Metal Land Comb. ... CALL
- Heroes of the Lance ... 25.77
- Hitchhiker's Guide ... 20.82
- Hole-In-One Golf ... 23.00
- Hollywood Hijinx ... 25.77
- Hostage ... 31.24
- Hunt for Red October ... 31.88
- Hybris ... 25.77
- Ice Hockey ... 31.88
- Ikari Warrior ... 31.24
- Indiana Jones Temp Dm ... 25.77
- Indoor Sports ... 31.88
- International Soccer ... 25.00
- Road Raider ... 31.88
- Roadwar 2000 ... 25.77
- Robbeary ... 17.00
- Robocop ... 32.25
- Rocket Ranger ... 32.00
- Roger Rabbit ... 31.24
- Rogue ... 25.77
- Romantic Enc./Dome ... 25.77
- Rush'N Attack ... 25.77
- S.D.I. ... 31.88
- Sargon III ... 31.88
- Shadowgate ... 31.88
- Shanghai ... 25.77
- Sherlock: Crown Jewels ... 25.77
- Shogun ... 41.67
- Silent Service ... 25.77
- Sim City ... 31.88
- Sinbad ... 31.88
- Skyblaster ... 23.00

7-Day SOFTWARE

P.O. BOX 1619, AGOURA HILLS, CA 91376-1619

- Skychase ... 25.77
- Skyfox II: Cygnus Conf. ... 31.88
- Slapshot! ... 41.67
- Slaygon ... 25.77
- Snake Pit ... 23.00
- Soccer ... 25.77
- Solitair ... 25.77
- Space Harrier ... 31.88
- Space Quest I/II/III ea. ... 31.88
- Space School Simulator ... 23.00
- Space Shuttle II ... 25.77
- Space Station Oblivion ... 32.00
- Speedball ... 25.77
- Sporting News Baseball ... 25.77
- Star Wars ... 25.77
- Starglider II ... 31.24
- Stellar Conflict ... 25.77
- Stir Crazy ... 23.00
- Street Sports Baseball/Basketball/Soccer ea. ... 25.77
- Super Cars ... 13.87
- Superstar Ice Hockey ... 31.88
- Suspect ... 10.39
- Suspended ... 10.39
- Sword of Sodan ... 34.27
- Tales Arab. Knights ... 31.88
- Tanglewood ... 25.77
- Targis ... 25.77
- Tass Times ... 25.77
- Tele Epic ... 26.00
- Tele Games ... 23.00
- Tele War II ... 25.77
- Tera Questron ... 25.77
- Terrorpods ... 25.77
- Test Drive I/II ea. ... 31.24
- Tetris ... 23.00
- Thai Boxing ... 10.39
- Thexder ... 23.00
- Three Stooges, The ... 31.88
- Thud-Ridge ... CALL
- Thunderblade ... 31.88
- Time Bandit ... 25.00
- Times of Lore ... 25.77
- Torch 2081 ... 20.82
- Total Eclipse ... 25.77
- Turbo ... 17.34
- TV Sports Football ... 31.88
- Twilight Zone ... 25.77
- Ultima III ... 25.77
- Ultima IV ... 55.57
- Undersea Commando ... 31.88
- Uninvited ... 31.88
- Universal Military Sim. ... 31.88
- Vampire's Empire ... 31.24
- Video Vegas ... 23.00
- Vyper ... 20.82
- War In Middle Earth ... 31.88
- Warlock ... 23.00
- Wayne Gretzky Hockey ... 32.00
- Winter Edition Games ... 25.77
- Wizard Wars ... 25.77
- World Class Leader Brd ... 25.77
- World Games ... 25.77
- Xybots ... CALL
- Zak McKracken ... 31.24
- Zero Gravity ... 20.82
- Zork Trilogy ... 48.62
- Zynaps ... 23.00

UTILITIES

- AmigaDOS Express ... 20.82
- AmigaDOS Toolbox ... 41.67
- B.A.D. Accelerator ... 31.88
- Benchmark IFF Library ... 64.47
- Butcher 2.0 ... 24.00
- C.A.P.E. 68K Assem. 2.0 ... 58.52
- CLI Mate ... 25.77
- Custom Screens ... 43.00
- Cygnus Ed Pro ... 64.47
- DevPak Amiga 2.0 ... 69.47
- Disk Mechanic ... 58.00
- Disk Recovery Toolkit ... 25.77
- DisKwick ... 31.88
- DOS-2-DOS ... 37.23
- Enhancer 1.2 ... 10.39
- Express Copy ... 32.25
- Extend ... 25.00
- EZ Backup ... 31.88
- F.I.F. Module ... 13.87
- FACC II ... 21.00
- Gizmoz 2.0 ... 48.62
- Gomf 3.0 ... 27.77
- Grabbit ... 20.82
- Inova Tools I/II ea. ... 55.57
- Interchange ... 32.25
- JetSet Laser Utility 1.3 ... 27.80
- Key to C ... 22.00
- Laser Up! Plot 1.2 ... 30.58
- Laser Up! Print 1.2 ... 68.81
- Laser Up! Util. Vol. 1 ... 30.58
- Lazerscript ... 28.00
- Lint ... 63.11
- Magellan 2.0 ... 117.99
- Marauder II ... 25.77
- Mirror Disk Copier ... 31.88
- Nag Plus 3.0 ... 49.57
- Powerwindows 2.5 ... 58.52
- PrintMaster Plus ... 31.00



DIGI-PAINT 3 *Christmas Special* **$64**

- Project D ... 31.88
- Quarterback ... 44.00
- Raw Copy 1.3 ... 38.67
- Superback ... 51.57
- Ultra DOS Utilities 1 ... 37.00
- Zing! ... 55.57
- Zing! Keys ... 31.88

GRAPHICS & PAINT

- Amiga Graphics Start Kit ... 72.00
- Analytic Art ... 37.25
- Award Maker-Educational/Sports ea. ... 20.87
- Award Maker Plus ... 31.88
- B Paint ... 25.77
- C-Light ... 38.65
- Caligari Jr. ... 138.31
- Deluxe Paint III ... 99.00
- Deluxe Photo Lab ... 104.22
- Deluxe Productions ... 139.84
- Desktop Artist ... 18.82
- Digi-View Gold ... 138.97
- Express Paint 3.0 ... 90.27
- Fine Print ... 31.88
- Graphics Studio ... 41.67
- My Paint ... 31.88
- PageRender 3D ... 94.17

Call for our *FREE* Hardware/Software CATALOG!

- Photon Paint II ... 98.00
- Pixmate ... 45.62
- Turbo Silver 3.0 ... 128.00
- TV*Show ... 63.00
- Ultra Design ... 277.97
- Video Effects 3D ... 138.97

MUSIC

- ADrum ... 51.57
- AudioMaster II ... 62.00
- C-Zar ... 126.31
- Deluxe Music Const. Set ... 69.47
- Dr. T's-ALL ... CALL
- Dynamic Drums ... 55.57
- Dynamic Studio ... 138.97
- Encore ... 45.00
- It's Only Rock & Roll ... 20.82
- MIDI Magic ... 97.22
- Music Studio 2.0 ... 55.57
- Music X ... 208.47
- Pro MIDI Studio ... 124.25
- Pro Sound Designer ... 111.17
- Sonix ... 55.57
- Soundlab Amiga ... 202.00
- SoundQuest-All ... CALL
- SoundScape Utilities I ... 34.00
- SoundScape Utilities II ... 42.00
- SoundTrax I/II ea. ... 14.00
- Synthia ... 59.50
- Texture II ... 174.25

PAGESETTING

- City Desk 1.2 ... 104.22
- Flow ... 63.00
- PageSetter ... 104.22
- Professional Page 1.3 ... CALL
- Publisher's Choice ... 129.00
- Publishing Partner Pro. ... 138.97

PROGRAMMING

- AC/Basic ... 134.00
- AC/Fortran ... 198.00
- Amiga C ... 103.56
- ARexx ... 31.88
- Assembler Language ... CALL
- Assempro ... 69.47
- Aztec-C Professional ... 128.00
- Basic Professional Pak ... CALL
- C Language ... CALL
- CRS-Assemb/NCG Pack ... 55.57
- Developer's Toolkit ... 31.88
- Expert System Kit ... 48.62
- Fortran 77/Pro. Pak ... CALL
- GFA Basic ... 90.00
- HISoft Basic ... 103.17
- J Forth ... 69.47
- Lattice C ++ ... 297.00
- Lattice C 5.02 ... 197.00
- Lattice C Compiler ... 340.00
- Lisp ... CALL
- Macro Assembler ... 69.47
- MenuMaker ... 31.88
- Metascope Debugger ... 59.00
- Modula-2 Compiler ... CALL
- Modula-2 Devel. ... CALL
- Multi-Forth ... 61.86
- Pas2Mod ... 69.47
- Program Caller ... 41.67
- Prog. Analysis Toolkit ... 41.67
- Runtime Package ... 69.47
- Sort Utility ... 41.67
- Source Level Debugger ... 49.13
- Symbolic Debugger ... 41.67
- T Shell ... 28.70
- True Basic ... 69.47
- Truestat ... 55.57
- UCSD Pascal ... 229.00
- UCSD Pascal Prof. Pak ... 429.00
- Ultra DOS ... 38.00
- WShell ... 31.88

TELECOM

- BBS-PC ... 65.00
- Dr. Term Professional ... 69.47
- On-Line Platinum ... 64.00

1-800-525-7DAY

Corp. Office (818) 889-3633 • FAX (818) 889-5175

WE PAY SHIPPING*: All orders delivered to addresses within the continental United States with a purchase value of $100 or more are shipped FREE via UPS regular service. Overnight, 2-day service and other special shipping is available. Ask for details. No surcharge for Visa or MasterCard orders, 3% for American Express. C.O.D. add $3.00 per product. C.O.D. orders are for cash, cashier's check or money order only. California residents add 6.5% sales tax.

OUR POLICY: We offer over 1,000 Amiga products. If you don't see it listed, please ask! Call around, then call us!

- We accept Visa and Mastercard with no surcharge, American Express add 3%. Your credit card is not charged until we ship your order. If we must ship a partial order, we'll pay the UPS ground shipping costs to complete the order.
- Upon receipt and approval, personal and company checks may clear within 3 business days on prepaid mail orders. Call for a free hardware and software catalog.
- All orders are processed and shipped the same day they are received whenever possible.
- International shipping—NO PROBLEM!
- Exchanges and returns—NO PROBLEM!
- **Call:** 1-800-525-7DAY U.S. and California.
- **Fax:** (818) 889-5175
- **Corporate Offices:** (818) 889-3633.

7-Day Software tries to carry only quality products. No warranties or representations as to the quality or useability of the products are made. It is the responsibility of the manufacturer to provide support for its products. **7-Day Software** will gladly replace damaged merchandise at no charge. Call for details. Prices and availability subject to change without notice.

*Software: Excludes blowouts, discontinued or "special" sale prices. Excludes all hardward.

WE SHIP BY: FEDERAL EXPRESS AND UPS

7-DAY ACCEPTS PAYMENT BY: VISA MasterCard AMERICAN EXPRESS Card

Circle 110 on Reader Service card.

BACKTALK continued

In the writer's opinion, "PageStream's text import capability is weak" because only two import modules exist at this time. More modules can be added without rewriting the program, and these will be distributed free when completed. In our opinion, PageStream's import capability is limited only by the modules available.

—*M.W. Kazmaier*
Soft-Logik Publishing

While PostScript does not rate a mention in the PageStream manual's index, the documentation does state that "You must use screen and printer fonts specifically designed for use with PageStream (or those converted for it)." There is no further mention of this, but a Soft-Logik technical support representative told me the program supports the resident Times-Roman and Helvetica fonts of PostScript printers. To test this support, I created a PageStream document with Times-Roman type and wrote a PostScript program to output the same string of type. The results reveal PageStream's approach to driving a PostScript printer is non-standard.

There is apparently also an optional font disk that provides support for other resident PostScript printer fonts, but again, there is no mention in the manual. The Soft-Logik representative said there was no support for industry-standard downloadable fonts—you must buy Soft-Logik's own versions of these fonts. The conversion program reportedly under development will add greatly to PageStream's functionality.

—*Chris Dickman*

M2Sprint (M2S Inc.)

I was disappointed in David McClellan's review of M2Sprint in the September '89 issue. It is inappropriate for Mr. McClellan to run benchmarks on a system with M2Sprint's minimum configuration. That he included a disk swap is unforgivable! His comparisons were one-sided. The difference between M2Sprint and its competitors, and the cause of the disk swap, is that M2Sprint is a development system, not just a compiler. The reviewer is silent about the fact that we supply over 170 library modules, in source form, with M2Sprint.

Mr. McClellan's primary attack was on our post-mortem debugger, which is standard with our package and not available from our Modula-2 competitors. It was unfair then to compare it to a debugging product for another language.

—*Jeff V. Range*
M2S Inc.

In response to David T. McClellan's review of M2Sprint, Mr. McClellan failed to list the configration of the Amiga on which the tests were performed. To criticze that M2Sprint's compiler and module definitions and libraries are sizable is not realistic. I feel the timing comparison was poorly done. How can the compile and link times represent a true comparison when one includes an unavoidable disk swap? His comparison to Lattice C's debugger was also unfair.

—*Bob Lockie*
Burlington, Ontario, Canada

I did not mention every feature of M2Sprint, but concentrated on things that matter to me as a developer, including size, speed, and quality of the tools, and problems that occurred when bringing up programs that run under other compilers without major hitches. Most readers who write to me have no more than 1½ megs of memory and two floppy drives (this was the configuration of the test system). The fact that a compiler running on such a system requires a disk swap does *matter. Comparing a Modula-2 package to a C compiler is not unfair because C, and every other language, is competition for Modula-2! For a major project I worked on, we chose C over Modula-2 and Pascal on the basis of tools available for each.*

—*David T. McClellan* □

ESTABLISHED 1968

MONTGOMERY GRANT

AMIGA WORLD 12 89

OUTSIDE USA & CANADA CALL
(718) 692-0790
FOR CUSTOMER SERVICE
Call: Mon-Thurs 9:30-4:30/Fri 9-3:30
(718) 692-1148

Retail Outlet, Penn Station, Main Concourse
(Beneath Madison Square Garden) NYC, N.Y., 10001
Store Hours Mon-Thurs 8:30-8/Fri 8:30-2:45/Sat CLOSED
Sun 9:30AM-7PM
FOR ORDERS & INFORMATION IN USA & CANADA CALL TOLL FREE
1-800-759-6565

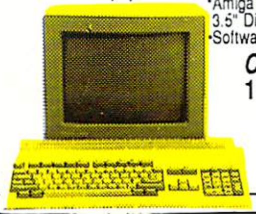
OR WRITE TO:
Montgomery Grant
Mail Order Department
P>O Box 58, Brooklyn N.Y., 11230
FAX NO. #7186923372
TELEX 422132 MGRANT

EXTENDED HOLIDAY SEASON ORDER HOURS: Mon-Thurs 8:30am-8pm/Fri 8:30am-4pm/Sat CLOSED/Sun 9:30am-6:00pm
NO SURCHARGE FOR CREDIT CARD ORDERS / WE INVITE CORPORATE AND EDUCATIONAL CUSTOMERS
RUSH SERVICE AVAILABLE / TOLL-FREE TECHNICAL SUPPORT

COMMODORE AMIGA 500
- Amiga 500 w/512K RAM
- Built-in 3.5" Disk Drive
- Mouse
- FREE Software
- Amiga Basic

$549

AMIGA 500 w/1084 & 1010 DISK DRIVE.........*$999*



COMMODORE AMIGA 500
- Amiga 500 w/512K RAM
- Built-in 3.5" Disk Drive
- Mouse
- FREE Software
- Amiga Basic

COMPLETE WITH:
1084 RGB COLOR MONITOR

$829

COMMODORE AMIGA 2000
- Keyboard
- 1MB Expandable to 9MB
- Built-in 3.5" Disk Drive
- Mouse
- FREE Software
- Amiga Basic

$1459

AMIGA 2000 w/SEAGATE 40MB HARD DRIVE $1949



COMMODORE AMIGA 2000
- Keyboard
- 1MB Expandable to 9MB
- Built-in 3.5" Disk Drive
- Mouse
- FREE Software
- Amiga Basic

COMPLETE WITH:
1084 RGB COLOR MONITOR

$1739

AMIGA 500 RGB COLOR PACKAGE
- Amiga 500 w/512K RAM
- Built-in 3.5" Disk Drive
- Mouse
- RGB Color Monitor
- FREE Software

$749

AMIGA 2500
- 3MB RAM
- Built-in 3.5" Disk Drive
- 40MB Hard Drive
- Keyboard
- Mouse
- Amiga Basic
- System Software

$3199

AMIGA 2000 RGB COLOR PACKAGE
- A-2000 Computer w/Keyboard
- 3.5" Disk Drive
- RGB Color Monitor
- FREE Mouse & Software

$1659

AMIGA 2000 HD
- 1MB RAM
- Built-in 3.5" Disk Drive
- 40MB Hard Drive
- Keyboard
- Mouse
- Amiga Basic
- System Software

$2099

Seagate Xetec
3.5" & 5.25" HARD DRIVES FOR AMIGA 2000
THESE SEAGATE HARD DRIVE PACKAGES INCLUDE XETEC FC20 HARD DRIVE CONTROLLER CARDS

ST-125N (20MB)..........$419
ST-138N (30MB)..........$449
ST-157N (49MB)..........$499
ST-177N (60MB)..........$699
ST-225N (20MB)..........$439
ST-251N (40MB)..........$499
ST-277N (60MB)..........$569
ST-296N (80MB)..........$629

GREAT VALLEY PRODUCTS
IMPACT A-2000-2/0..........$269
IMPACT 25MHz 68030 Accellerator for A-2000..........IN STOCK!

A-2000 HARD CARDS
IMPACT A-2000 HC/30..........$629
IMPACT A-2000 HC/40Q..........$739
IMPACT A-2000 HC-43/M..........$629
IMPACT A-2000 HC/80Q..........$1049

A-500 HARD DRIVES
IMPACT A-500 HD/20M..........$629
IMPACT A-500 HD/43M 40MB For A-500..........$849
IMPACT A-500 HD/402..........$889
ALL OTHER GVP PRODUCTS IN STOCK!

AMIGA HARD DRIVES FOR AMIGA 500
XETEC FASTTRAK
FASTTRAK JR. w/20MB..........$579
FASTTRAK Q40 w/42MB..........$869
XETEC Q80 M150..........*IN STOCK!*

TRUMP CARD 500
EXTERNAL CHASSIS ENABLES ANY SCSI HARD DRIVE TO OPERATE WITH AMIGA 500

TRUMP CARD 500 & SEAGATE Hard Drives Pkgs. For AMIGA 500
ST-138N w/30MB..........$519
ST-157N w/49MB..........$559
ST-177N w/60MB..........$749
SAME PKG. AS ABOVE W/XETEC FASTTRAK EXTERNAL CHASSIS CAN BE EXPANDED TO 8MB RAM....ADD $149

AMIGA PERIPHERALS



A-1010 DISK DRIVE **$179**
A-501 EXPANSION MODULE **$149**
A-2286D AT BRIDGE BOARD **$1149**
A-1084 RGB **$289**

A-2088-D BRIDGE BOARD.....$499
A-2058 RAM EXPANSION......$699
A-2300 GENLOCK..........$269
A-1680 MODEM..........$99.95
A-2010 3.5" DRIVE..........$149
A-2090..........$329
A-2620/2-A-2640/4 AccelleratorBoards........IN STOCK

ALL OTHER AMIGA PERIPHERALS & ACCESSORIES IN STOCK

SUPRA 2400 ZI International Modem......$129
SUPRA RAM 2000 (Equivalent to 2058 RAM Expander)..........$399
FLICKER FIXER..........$439
C.LTD AMIGA HAND SCANNER..........$439

GEN ONE..........$499
PROGEN..........$339
SUPERGEN..........$599
AMIGEN..........$144

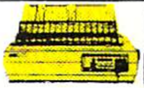
A-MAX MAC Emulator for Amiga..........$119
MAC Compatible Drives for A-MAX..........$169
SOUNDSCAPE Complete Midi Music System..........$249
FRAME GRABBER..........$519

COMMODORE
64C w/GEOS..........$119
128 D COMPUTER..........$429
1541 II DISK DRIVE..........$159
1571 DISK DRIVE..........CALL
1750 EXPANSION MODULE..........CALL

PANASONIC
KXP-1180.......$177.95
KXP-1191.......$229.95
KXP-1092i......$269.95
KXP-3131.......$269.95
KXP-1124.......$299.95
KXP-1595.......$419.95
KXP-1524.......$519.95
KXP-4450 LASER.........$1349.95

OKIDATA
OKIMATE 20....$139.95
OKIDATA 180+.$219.95
OKIDATA 183...$249.95
OKIDATA 320...$279.95
OKIDATA 390...$439.95
OKIDATA 321...$439.95
OKIDATA 391...$599.95

STAR
NX-1000.......$154.95
NX-1000 RAINBOW....$209.95
NX-1000C.....$159.95
NX-1000C RAINBOW....$209.95
NX-1000II.....$164.95
NX-2400.......$277.95



XR-1000........$339.95
XR-1500........$429.95
XR-2410........$429.95
XR-2415........$549.95

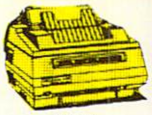
TOSHIBA 301..........$329.95

PRINTERS
HEWLETT PACKARD
LASERJET SERIES II **$1629**

HP PAINTJET..........$959.95
1MB EXPANDER.......$279.95
2MB EXPANDER.......$399.95
4MB EXPANDER.......$699.95
HP DESKJET..........$569.95
HP LASERJET IID.......$2799
DESKJET+..........$679.95

SANYO PR-3000 DAISY WHEEL PRINTER **$59.95**

EPSON
FX-850........$329.95
LQ-510........$329.95
FX-1050......$429.95
LQ-850........$509.95
LQ-950........$569.95
LQ-1050......$719.95
LQ-2550......$899.95



NEC
P2200..........$319.95
P5200..........$489.95
P5300..........$649.95

MasterCard · VISA

Certifiedcheck, bank check, money orders, approved P.O.'s, Visa, Mastercard, Diner's Club, Am-Ex, Cart Blanche & C.O.D.'s accepted. Please call before submitting P.O.'s. No additional surcharge for credit card orders. Non-certified checks must wait 4-6 weeks for clearance. N.Y. residents add applicable sales tax. Prices and availability subject to change without notice. Not responsible for typographical errors. Return of defective merchandise must have prior return authorization number, or returns will not be accepted. Please add 5% shipping & handling (min. $6). Volume orders over $2000 are discounted to 3% shipping & handling (Canadian orders please add additional 5%). APO FPO orders please add 10% shipping & handling. All APO FPO orders are shipped first class priority air. All orders can be shipped Air Express-call for details. D.C.A. #800233.

TO LIGHTSPEED

MUSIC & MIDI

Item	Price
Dr. T's Copyist Pro	**$179**
Dr. T's KCS	$165
Dr. T's Level II	**$229**
Dr. T's Midi Studio	$45
Dr. T's Editors (ea)	$99
Dynamic Studio	$129
M	$129
Midi Magic	$115
Music-X	$199
Pro Sound Designer	$119
Sound Oasis	$65
Synthia	$65
Texture Quest I	$99
Texture Quest II	$169

GRAPHICS & ANIMATION

Item	Price
Butcher	**$25**
Caligari	$169
Digi-Paint III	**$65**
Director	$45
Director Toolkit	$27
Elan Performer	**$39**
Fantavision	$45
Grabbit!	$21
Homebuilder's CAD	$129
MovieSetter	$65
MovieClips	$23
Opticks	**$129**
Photon Paint II	$99
Pro Video GOLD	$199
Pro Video Fonts (ea)	$85
Sculpt 3D-XL	**$129**
Sculpt-Animate 4D	$439
Turbo Silver	$129
Turbo Silver Terrain	$27
Ultra Design	**$249**
Video Effects 3D	$129
X-CAD Designer	**$99**
X-CAD Professional	**$329**

THIS MONTH'S SPECIALS!

Item	Price
Oceanic Master 3A-1	$119
MAST Enhanced Unidrive	$149
A2000 Internal Drive	$99
Sony Bulk Diskettes	ea. $1.00

SPOTLIGHT ON ...

Electronic Arts

Item	Price
Deluxe Print II	$55
Deluxe Video III	$95

FREE Limited Edition SSI T-Shirt

(while quantities last) with purchase of either:

Item	Price
AD&D Hillsfar	**$32**
AD&D Pools of Radiance	**$32**

PROGRAMMING

Item	Price
AC BASIC	$129
AREXX	$32
Benchmark Modula-2	**$129**
C Library	$65
IFF Library	$65
Simplified Library	$65
C.A.P.E. 68K Assembler	$59
DSM (Disassembler)	$45
DevPac Amiga (HiSoft)	$65
G.F.A. BASIC	$89
HiSoft BASIC	$105
Innovatools I or II	$55
J-Forth	$129
Lattice C 5.0	**$199**
Lattice C++	$259
M2Amiga Modula-2	**$165**
M2Amiga Source Debugger	**$85**
Magellan	$129
Manx Aztec C Devel	$199
Manx Aztec C Pro	$129
Manx Library Source	$199
Manx Source Debugger	$79
Powerwindows	$59
Software From Hell	**$55**

If you don't see it listed...

...Just ask!

ORDERS & CUSTOMER SERVICE

1-800-735-4428

Hours: Monday-Friday 9-6 (PST)

INTERNATIONAL TOLL-FREE ORDERING!

AUSTRALIA:

Overseas Freephone Toll-Free: **0014-800-12-5632**

CANADA:

Toll-Free Service Call: **1-800-869-2555**

■ **Australia & Canada:** Please use Toll-Free lines for Orders Only! (Minimum Order $100 US)

For info, or Orders under $100 US, call **503-777-1008.**

Thank You!

HARDWARE & ACCESSORIES

RAM EXPANSION

Item	Price
8-Up! DIP	$175
8-Up! SIMM	**$149**
8-Up! PopSIMMs (4)	$65
MegaBoard 0K 2000	$199
Spirit Inboard 1000/500	$229
Starboard II 0K	**$249**
Supra 2MB/8MB 2000	**$349**
Supra 512K 500	**$95**

GRAPHICS HARDWARE

Item	Price
AProDraw 12x12 Tablet	$465
12x12 w/Cursor	$499
Color Splitter	$89
Digi-View GOLD	**$139**
flickerFixer	$479
FrameBuffer/Catcher	**$629**
Panasonic Camera w/Lens	$249

SCSI HARD DRIVES

Item	Price
Quantum 40MB 3.5"	$529
Quantum 80MB 3.5"	$849
Quantum 105MB 3.5"	**$949**
Seagate 48MB 3.5"	$399
Seagate 80MB 5.25"	**$559**
Syquest 44MB 5.25"	$999
44MB Cartridges	$129

MUSIC HARDWARE

Item	Price
AMAS MIDI/Sampler	**$119**
CMI MIDI External	$59
ECE MIDI	**$49**
MIDI Gold 500	$59
MIDI Gold 2000	$65
MIDI Star 2*6	**$225**
Perfect Sound 500	$69
Perfect Sound 1000	$79

A2000 CONTROLLERS

Item	Price
GVP Impact 2MB/0K	$319
HardFrame	**$229**
Kronos	$239
Overdrive	$165
Supra WordSync	**$169**
Trump Card	$175

SUPRA DRIVES

Item	Price
SCSI Controller 500	$169
SCSI Controller 1000	$209
Supra 20MB A500	$569
Supra 30MB A500	$639
Supra 45MB A500	$729
Supra 60MB A500	$849
Supra 80MB A500	$1219
A1000 versions, add	**$80**

GENLOCKS

Item	Price
Gen One	$599
Magni 4004 or 4004S	$1495
MiniGen	**$219**
ProGen	$379
SuperGen	**$649**
VidTech ScanLock	**$875**

MISC. HARDWARE

Item	Price
A-MAX Mac Emulator	$129
A-MAX 128K ROMs	$139
A-MAX Cutting Edge Drive	$189
A-MAX Package	**$429**
Boing! Optical Mouse	$99
CMI Multiport 2000	**$185**
CMI Proc Accel 1000	**$199**
CMI Proc Accel 500/2000	$185
GVP 030/882 25MHz	$1249
GVP 030/882/4MB 25MHz	$2949
M-4 Mouse	**$39**
Ronin 28Mhz 030/882	$1795
Toolbox 1000	**$225**
UniDrive	**$129**

Call for hardware shipping rates.

ACCESSORIES

Item	Price
Camera Stand w/Lights	$59
Epyx 500XJ Joystick	$15
GOMF! Button	$55
Infra-Red Joystick	**$12**
Mouse Master	**$27**
Power Player Joystick	$21
Trackball Mouse	**$42**
X-Specs 3D Glasses	$89

BOOKS

Item	Price
AmigaBASIC Inside & Out	$19
AmigaDOS Inside & Out	$16
Amiga Graphics In & Out	**$26**
C for Beginners	**$16**
C for Advanced	**$26**
Programmer's Guide (Peck)	$19
Quick Reference Guide	**$8**
Sybex Handbook 1 or 2	$19

Notice: We aid Law Enforcement agencies in the prosecution of Credit Card fraud!

LIGHT SPEED DISTRIBUTION

MasterCard

VISA

6335 SE 82nd, Portland, OR 97266, (503) 777-1008, FAX: (503) 777-1252

A Division of Doxsis Systems, Inc.

Circle 122 on Reader Service card.

WHAT'S NEW?

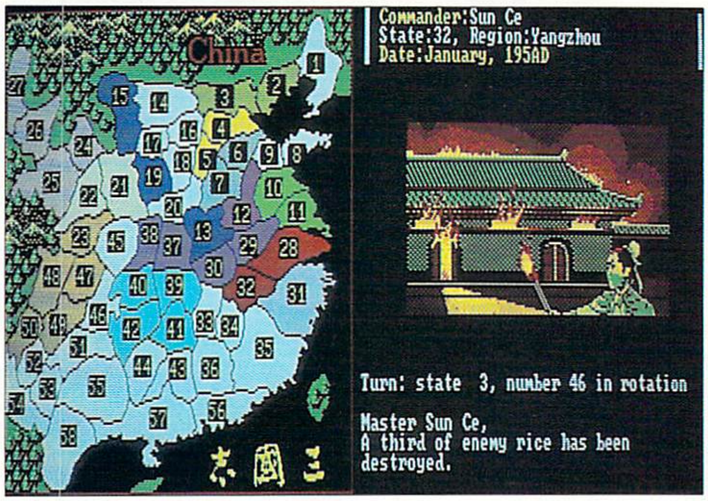
Sail the salty seas, increase your investment returns, or create a business presentation that'll make your boss sit up and take notice.

Compiled by Barbara Tyson and Jan Jackson

BACK EAST

GET A TASTE of the old east with two new games from Koei. To become **Genghis Khan** ($59.95), you must build an empire by defeating opponents and managing territories. Play conquerer alone or with up to three friends. Two scenarios and five levels of difficulty provide flexibility.

Romance of the Three Kingdoms ($69.95) takes you back in time even further—to second-century China. In each of the game's five scenarios, the government has collapsed, leaving you to struggle with other warlords (up to eight can play) for supremacy. Whether you choose to negotiate, build alliances and barter, or to attack and pillage, you must strategize. Both games include historical notes in the documentation. Get on the Orient express by calling Koei Corp., One Bay Plaza, Suite 540, 1350 Bayshore Highway, Burlingame, CA 94010, 415/348-0200. *RS #513.*



Survival choices: build or destroy.

WORDS ON THE WING

WHAT'S THE LATEST in fonts? Motion! Both new additions to the Kara Fonts lineup offer an eight-color hi-res font in standard *and* animated versions. **AnimFonts1** contains a formal script font that in animation mode appears to write itself across the screen. On the **AnimFonts2** disk is a dimensional, beveled font that, when animated, rotates onto the screen passing a glint of light from letter to letter. The packages support Electronic Arts' Anim Brush format and retail for $49.95 each. For variation, they offer additional color palettes tested on a vectorscope and waveform monitor. To get your words moving, call Kara Computer Graphics, 6365 Green Valley Circle, Suite 317, Culver City, CA 90230, 213/670-0493. *RS: #510.*

FREE ASSOCIATION

IN CREATING **Interactor** ($99), Very Vivid combined the hypertext concept with desktop video. The result is a presentation system that lets you incorporate IFF graphics of any resolution, text, and IFF sound into interactive, randomly accessible databases. The mouse is your primary tool for putting together Interactor creations. To access all of the details, contact Very Vivid, PO Box 127, Station B, Toronto, Ontario, Canada M5T 2T3, 416/686-7850. *RS #512.*

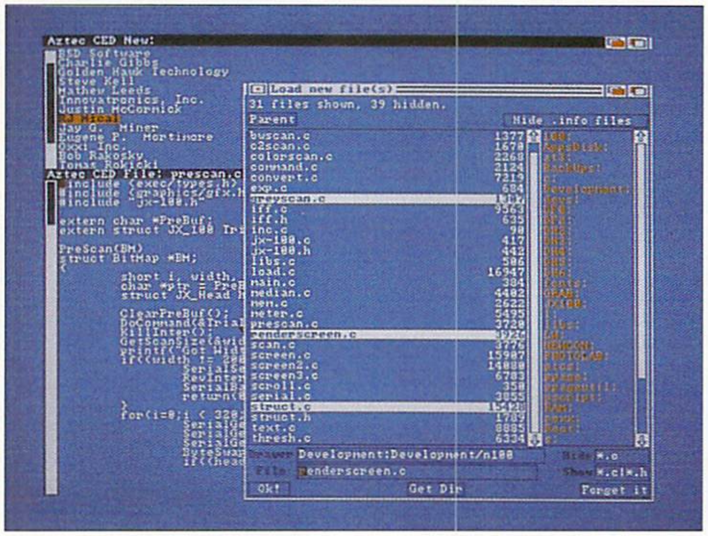
IN THE GROOVE

SYNCHRONIZE DELAY times to song tempos with **MIDI Delay**. The program processes MIDI data set in one-millisecond increments up to eight seconds on an internal timer. The delay can also be driven by an external MIDI clock source. All types of MIDI data, including continuous controllers, can be delayed up to 15 times. You can send out each repeat on the same or consecutive channels, with or without programmable transposition. MIDI Delay features real-time MIDI control options. Presets are provided to let you program and call up your favorite delay settings.

Peggy takes incoming MIDI note data and plays chord notes in succession rather than simultaneously. Available patterns are up, down, up and down, random, forward, backward, and forward and backward. You can change the pattern via mouse, keyboard, or via MIDI program changes. You can set the speed with an internal timer or you can synchronize Peggy with an external MIDI clock to the tempo of a song. Both MIDI Delay and Peggy retail for $50. For more information about either product, contact Triangle Audio Inc., PO Box 1108, Sterling, VA 22170, 301/526-6224. *RS #507.* ►

Revamping

ASDG HAS finally rolled **CygnusEd Professional 2.0** out of the shop. Tuned up features include speedier and more powerful macros, unlimited undo/redo, and a turbo search-and-replace function that's 100 times faster than that in the original version. ARexx support is expanded in 2.0, alternate screen fonts are standard, and a new feature helps locate and correct Modula-2 syntax errors. The new model is $99.50, but you can recharge your original CygnusEd disk by sending it and $16 to ASDG Inc., 925 Stewart St., Madison, WI 53713, 608/273-6585. *RS #514.*



A text processor with new lines.

Peripheral Control

TAKE CHARGE OF video decks, laser and compact disk players, and other infrared-controllable devices from your Amiga with the **MediaPhile Programmer's Toolkit**. With simple calls to library routines, you can direct any number of devices simultaneously. The software includes an ARexx query entry point that allows full access to Toolkit library functions from ARexx programs, and can host programs such as TxEd or XShell. A set of example ARexx programs let you control decks from the CLI. For pricing and more information, contact Interactive MicroSystems Inc., PO Box 1446, Haverhill, MA 01831, 508/372-0400. *RS #506.*

Window Shades

THANKS TO **Color Windows** ($29.95), you can change the palette of multitasking programs with custom screens simply by pressing three keys simultaneously. Then, you can save the values for instant recall later. To put shades on your windows, contact Kimbersoft, 13281 72nd Ave., Suite 201, Surrey, BC, Canada V3W 2N5 604/534-7098. *RS #508.* ►

THE SOFTWARE SHOP

MIGA SOFTWARE AND HARDWARE MARKETPLACE

r Computer Gifts Here

RAPHICS & VIDEO

mon	$55.00
ptions	35.00
agic	62.00
ate 3-D	99.00
ate 4-d	439.00
ation editor	39.00
ation effects	32.00
ation Flipper	32.00
ation multiplane	58.00
ation stand	32.00
ation w/images	89.00
ator apprentices	185.00
otion	65.00
itechtural design	23.00
allery I	20.00
allery II	20.00
ak I	20.00
arts 1	20.00
arts II	20.00
d maker plus	32.00
dcast Titler	189.00
her	27.00
ht 3d editor	39.00
ari	169.00
grapher help	28.00
ma Paint	48.00
r splitters	79.00
icsetter	65.00
xe paint II	89.00
xe paint III	102.00
xe print II	59.00
xe photo lab	102.00
xe production	137.00
xe video II	89.00
gn 3d	67.00
gnasaurus	32.00
aint 3	69.00
paint help	24.00
view	131.00
vorks 3d	89.00
ctor's Toolkit	26.00
nt help	24.00
Performer	41.00
ess paint	65.00
ess paint III	89.00
avision	42.00
s in Flight II	77.00
re design 3-d	23.00
an design 3-d	23.00
Paint	34.00
ct	55.00
ior des. sculpt 3d	23.00
ion	109.00
ts Camera Action	49.00
obot design 3-d	23.00
eler 3d	64.00
e Clips	29.00
e setter	65.00
flipper fx	95.00
render 3d	108.00
ct vision	175.00
on expansion disk	20.00
on paint	65.00
on paint 2.0	97.00
on paint help	22.00
on video cell anim.	97.00
ate	43.00
master plus	33.00
ideo Gold	205.00
ideo plus set I	83.00
ideo plus set II	83.00
ideo plus	193.00
pt 3-d	64.00
pt animate 4d Jr.	95.00
Director	46.00
o silver	129.00
ow	64.00
xt	64.00
effects 3d	121.00
scape 3-d	120.00
titler	95.00
rope	91.00

MONITORS

ek multisync 12' mon.	$512.00
3D multisync	699.00
sonic 8cm515	249.00
cm1430 monitor	699.00
multi-scan mon.	535.00
n 1000 20" multisync	2899.00
th 14' Flat screen mon.	720.00

HARDWARES

Accelerator A500	$140.00
Air drive 3.5' external	169.00
Amax Emulator	135.00
Amigen	153.00
Digi-Droid	79.00
Easyl A1000	349.00
Easyl A2000	379.00
Easyl A500	345.00
Flicker fixer	495.00
Framegrabber	599.00
Future sound	129.00
Gen One	689.00
Internal 3.5drive A2000	99.00
Live A2000	349.00
Live framegrabber A1000	279.00
Live framegrabber A500	305.00
Mac 3.5 Drive	229.00
My-T-Mouse	39.00
Perfect sound A1000	69.00
Perfect sound A500/A2000	69.00
Progen	359.00
Scanlock	929.00
Subsystem 500	269.00
Super Gen	695.00
Supra 2400bd internal	149.00
Supra modem 2400bd	135.00
Synergy 500	199.00
Toolbox A500	232.00
WV1410 Panasonic Camera w/lens	210.00

HARDDISKS

32mg 3.5 SCSI drv. 40ms A2000	$332.00
48mg 3.5 SCSI drv. 40ms A2000	419.00
42mg 5.25 SCSI drv. 40ms A2000	479.00
42mg ST506 5.25 drv. 40ms A2000	415.00
65mg SCSI 5.25 drv. 40ms A2000	499.00
Fastcard A2000	159.00
GVP-Controller1mg Ok	275.00
GVP-Controller2mg Ok	299.00
Hardframe 2000	249.00
Overdrive Controller A2000	199.00
Quantum drive 80mg 11ms acc.	799.00
Quantum drive 40mg 11ms acc.	499.00
Quantum drive 105mg	899.00
Supra 2000 HD Controller	229.00
Supra SCSI interface	195.00

PROGRAMMING LANGUAGES

A/C basic	$129.00
A/C fortran	195.00
Algebra II	33.00
Arexx	33.00
Assem pro	65.00
Aztec C developer	195.00
Aztec C professional	129.00
Benchmark C library	62.00
Benchmark iff library	62.00
Benchmark modula 2	128.00
Benchmark simplified	62.00
Cape 68k	59.00
Devpac Ed/Assem/link/debg.	66.00
Dissasembler	45.00
GFA basic 3.0	95.00
Hisoft Basic Pro.	118.00
Inovaiools #1	54.00
J-Forth pro 2.0	133.00
Lattice C ++	379.00
Lattice developemnt system 5.0	199.00
Library's source	197.00
Macro assembler	65.00
Metacomco pascal	95.00
Metacomco shell	40.00
Metascope debugger	65.00
Power windows v2.5	58.00
Pro Basic	124.00
Source level debugger	50.00
Tci modula 2 comm.	199.00
Tci modula 2 developer	99.00
Tci modula 2 regular	42.00
The power sys. pecan	93.00
The professional pecan	89.00
True basic	65.00
W shell	33.00

SOUND & MUSICS

4-op deluxe	$97.00
Audio master	37.00
Audio master II	67.00
Back songbook	27.00
Copyist II	179.00
D-50	99.00
Deluxe music	69.00
Dr drums	28.00
Dr keys	28.00
Dr T's Keyboard	160.00
Dr. T's Midi Rec. Studio	47.00
Dx heaver	97.00
Dynamic drums	52.00
Dynamic studio	129.00
Future sound A500/A2000	92.00
Instant music	32.00
Kcs Level II	225.00
Matrix 6	97.00
Midi Magic	97.00
Mt-32	97.00
Music student	38.00
Music-X	205.00
Pro sound designer	125.00
Promidi studio	129.00
Rock & roll	21.00
Sonix	51.00
Sound Oasis	69.00
Sound sampler	78.00
Sound Track Vol. 1	35.00
Studio magic	65.00
Synthia	59.00
Texture	97.00
Utilities 2(mimatics)	43.00

UTILITIES

B.A.D.disk optimizer	$32.00
C.B. Tree	65.00
Celebrity cook book	20.00
Cygnused Professional	65.00
Disk 2 disk	33.00
Disk master	33.00
Disk mechanic	59.00
Dos 1.3	24.00
Dos 2 dos	35.00
Doug's math aquarium	52.00
Dunlap Utilities	55.00
Encore	45.00
Ez backup	33.00
Facc II	22.00
Fine print	33.00
Fleet check	33.00
Flip side	37.00
Formation	47.00
Gold spell	32.00
Gomf	29.00
Grabbit	19.00
Laser scripts	28.00
Laser up: fonts	26.00
Laser up: plot	33.00
Laser up: print	58.00
Laser up: utilities	28.00
Momentum Mail	22.00
Multi preferences	20.00
Nag Plus Sched. Assist.	52.00
Pixel Script	104.00
Pro script	32.00
Project D	32.00
Promis spelling	33.00
Quarterback	45.00
Raw copy 1.3	39.00
Superback	52.00
Tdi editor sources	15.00
Tdi examples	10.00
Tdi kermit	22.00
Text ed plus	52.00
V.I.P.	32.00
X-Copy	30.00

WORDPROCESSORS

Becker text	$92.00
Critic's Choice	159.00
Excellence!	179.00
Flow idea processors	63.00
Gold spell II	30.00
Kindwords	65.00
Pen Pal	102.00
Prowrite v2.0	80.00
Text pro	50.00
The Works Platinum	164.00
Transcript	47.00
Word perfect	159.00
Wp library	79.00

Christmas Spectaculars!

Drives w/Hardframe 2000

Quantum 40mg	$721.00
Quantum 80mg	1,029.00
Quantum 105mg	1,119.00
138N 32mg	629.00
157N 48mg	689.00
277N 63mg	779.00

Drives w/Fastcard

Quantum 40mg	$639.00
Quantum 80mg	979.00
Quantum 105mg	1,039.00
138N 32mg	539.00
157N 48mg	595.00
277N 63mg	699.00

FastTrack Sys. A500/A1000

Quantum 40mg	$869.00
Quantum 80mg	1,199.00
Quantum 105mg	1,279.00
138N 32mg	759.00
157N 48mg	829.00
277N 63mg	929.00

Floppy Drives

Chinon Internal 3 ½	85.00
Chinon External 3 ½	115.00
Chinon Internal 5 ¼	95.00
Chinon External 5 ¼	149.00

FastTrack Sys. w/2mg Fast ram A500/A1000

Quantum 40mg	$1,233.00
Quantum 80mg	1,563.00
Quantum 105mg	1,643.00
138N 32mg	1,123.00
157N 48mg	1,193.00
277N 63mg	1,293.00

Memory Expansion A500/A1000/A2000/A2500

8Up 2mg	399.00
8Up 4mg	615.00
8Up 6mg	839.00
8Up 8mg	1,079.00
Minimeg 512k	349.00
Minimeg 1mg	399.00
Minimeg 2mg	529.00
Starboard 512k	329.00
Starboard 1mg	369.00
Starboard 2mg	499.00
Spirit 512k	289.00
Spirit 1mg	339.00
Spirit 1.5mg	389.00
Spirit 2mg	499.00
501 Clone 512k	99.00

1-800-752-0050

In Mass. Call....

1-508-756-6452

SALES AND QUOTES (outside Mass.): 1-800-752-0050
SHIPPING AND TECHNICAL SERVICE: 1-508-756-6452
QUOTE-A-FAX: 1-508-799-9354

- Corporate and volume purchases invited. Call Moe.
- Stock orders placed by 12:00 NOON EST shipped the same day.
- Allow 10 days for personal checks to clear.
- Minimum $5.00 Shipping/handling charge
- Returns subject to restocking charge
- Software defects-call the Manufacturer
- For faster delivery send cashiers check
- Wire transfer accepted.
- Add $3.50 for COD.

SHOWROOM
22 Front Street
Worcester, MA 01614

MasterCard VISA

Visa and MasterCard Accepted

STELLAR POSITION

LEAD A CREW of eight star troopers to save the galaxy's remaining inhabitants from pirates and aliens. You will travel through space in starships, exploring planets and space stations in search of objects, allies, and enemies. **Star Command** ($49.95) sets you in the deepest reaches of the galaxy, where Earth, now nonexistent, is nothing but a memory.

Arriving in the city of Hillsfar, you are compelled to set out on a series of quests involving archery, maze exploration, arena combat, lockpicking, and equestrianship. In **Hillsfar** ($49.95), an adventure and action-style game, victors receive gold, experience, or magical items. To embark on either of these Strategic Simulations adventures, contact Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171. *RS #505.*

LET'S TALK

TURN YOUR AMIGA into an Ethernet network system with **AmigaNet**. Available in versions for both the A2000 and A500, the hardware consists of a card for A2000-series machines, and a plug-in module with its own power supply for the A500. AmigaNet's operating system includes Amiga File Service and TCP/IP support. It runs at 10M baud and offers Amiga-to-Amiga communication and Amiga File Servers. To fit into the network mainstream, AmigaNet complies with IEEE Standards 802.5 types A and B (Ethernet and Cheapernet), and is compatible with Ethernet Version 2. Get hooked by contacting Hydra Systems, Red Lane, Kenilworth, England 203/471111. *RS #509.*

BUY LOW

ENLIST YOUR AMIGA to help you record, review, and track your stock portfolio activity—including purchases, sales, splits, and dividends. With **Take Stock**, you can generate a variety of printed reports, and graph a year's worth of daily quotes for each stock. Your broker, East-West Software (73 Lorna Lane, Suffern, NY 10901), charges a $49.95 commission for the product. *RS #516.*

ON COURSE

SAILORS AND boaters, **Scan-Ahead Navigator** can help steer you straight. The program translates loran inputs into a position mark so you can follow your location on a color-coded electronic chart. A single command line displays instructions, latitude and longitude coordinates, course-to-steer, ETA, range and bearing, depth, buoy location and more. The **Scan-Ahead Map Generator** lets you make your own electronic charts for use with Navigator.

The **MarineLAN/Integrator**, a 16-port hardware interface, can group your Amiga with NMEA standard devices such as loran, SatNav, autopilot or instruments, much as Local Area Networks connect multiple computers into a single, unified system. Entire navigation packages from $777 are available from Phoenix Engineering Systems, 4240 Lakeshore Rd., Deckerville, MI 48427, 313/376-4843. *RS #501.* ■

HORS D'OEUVRES

Hints, tips and Fred Fish strikes back!

Compiled by Tim Walsh

Closing Troublesome Windows

WHEN ACTIVATING public-domain utilities such as GOMF1.0 (Fred Fish disk #95), from a startup-sequence or CLI, the CLI window from which you started it can't be closed. Consequently, you end up opening another CLI or Shell because the original window no longer recognizes or responds to any commands.

The easiest solution involves activating the unfriendly utility from a CLI using the following command:

Run >nil: <nil: Gomf1.0

As an equally effective alternative, include the following commands in your startup-sequence:

Run >nil: Gomf1.0

Either method will redirect the output to NIL: and close the CLI window. (Incidentally, this process also works well with higher versions of Gomf, such as Gomf3.0.) Those troublesome CLI windows will now become a thing of the past!

Ernie Millan
Downey, CA

Hard-Drive Woes

AS A NEW owner of a hard-disk drive, I had a problem where no matter what I did, I simply could not drag icons from my floppies into the hard-disk drive windows. Faced with a lifetime of intensive CLI file-copying activity to transfer files to my hard disk, I knew there had to be an easy solution.

Sure enough, there was. Poised in my startup-sequence was a call to Mach (Fred Fish disk #130). A public-domain mouse enhancer, Mach instantly activates the window that the pointer is currently positioned in, without a press of the left mouse button. While this is otherwise a time-saving feature, it prevents dragging a file or drawer icon into the hard-disk window. When the icon reached the destination window, it transferred control from the source disk and over to the hard disk, thus losing the source icon.

By removing the startup-sequence call to Mach, dragging icons to my hard-disk drive worked flawlessly. If other Amiga users experience similar problems, always check for the presence of Mach or similar step-saving utilities on your disks before placing the blame on the hardware.

Gary Ludwick
Huntersville, NC

Keeping Tabs via FreeMap

GRAPHICS PROGRAMS, such as NewTek's Digi-Paint 3, MicroIllusion's Photon Paint 2.0, and Electronic Arts' DeluxePaint III, all devour enormous amounts of Chip RAM. For instance, with Digi-Paint 3, Workbench, and a typical word processor running simultaneously, you'll usually have only about 200K of Chip RAM available on an Amiga equipped with 512K of Chip RAM. Open several windows or start some serious multitasking and without a doubt, the infamous "You are getting low on Chip memory" messages will start to appear. When you least expect it, you might suffer a non-recoverable system crash and possibly lose whatever you're working on.

There's an easy way to keep track of how much free Chip RAM is available at all times. In the Tools drawer of the Extras 1.3 disk, there's a utility called FreeMap. Activate it by double-clicking its icon and it will reveal how much Chip and Fast RAM is available. Toggling the front/back gadget will hide it from sight when you don't need it. By keeping you informed of how much Chip RAM you're using, FreeMap can help you to avoid disaster.

Ronald J. Elliott
Washington, DC

Faster File Access

IF YOU HAVE one or more megabytes of RAM and no hard-disk drive, you probably think you're out of luck trying to save data to RAM if there's a RAM: option missing in the application software's file requester. Just include a statement in your startup-sequence, such as Assign DH0: RAM:. Then, when saving data to the RAM disk, select the DH0: option as the destination drive. Your files will then be saved to RAM and can be retrieved for later use. For permanent storage, though, just be sure to copy them to floppy disk before powering down.

Denis Barsalo
Dorval, Quebec, Canada

If you have an idea you'd like to share with our readers, send it to Hors d'oeuvres, AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458. If your idea gets published, you'll receive an* AmigaWorld *surprise gift.* ■

BRiWALL

Our Fifth Year In Business! We Know How To Service Our Customers!

SOLID PRODUCTS & SOLID SUPPORT

P.O. Box 129 / 58 Noble Street
Kutztown, PA 19530

24 HOURS -- TOLL FREE

1-800-638-5757

Outside USA Call 1-215-683-5433

SATISFACTION GUARANTEED

No Surcharge On Charge Orders

Friendly Service

Customer Service Business Hours M-F 9-5 EST

ACCESSORIES

64 Emulator 2 w/cable-A500	$52
Cables	call
Camera Panasonic WV1410	189
Covers	call
Flicker Master	14
Inks	call
Joysticks	call
Maxx Yoke Flight Cntrl	79
Mouse Master	29
Paper	call
Ribbons	call
Switch Box A/B (Serial)	40
Switch Box A/B/C/D (Serial)	49

BOOKS

1001 Things to do with Amiga	$11
Amiga C for Beginners +	15
Advanced Amiga BASIC Book	15
Amiga 3D Graphics Prog +	17
Amiga BASIC Inside & Out +	20
Amiga C for Advanced Prog +	22
Amiga DOS Inside & Out +	17
Amiga DOS Manual	20
Amiga DOS Quick Ref Manual	8
Amiga DOS Reference Manual	19
Amiga Drives Inside & Out +	24
Amiga Graphics Inside & Out +	27
Amiga Hardware Ref Review	18
Amiga Machine Language +	17
Amiga Prog Guide	15
Amiga Prog's Handbook Vol I	20
Amiga Prog's Handbook Vol 2	20
Amiga Systems Prog's Gde +	27
Amiga Tricks and Tips +	17
Amiga for Beginners	15
Elementary Amiga BASIC Book	13
Inside Amiga Graphics	15
Inside the Amiga With C	21
Kickstart Guide to Amiga	19
MORE Amiga Tips & Tricks	17
Prog Guide C Language disk	12
Programmer's Guide to the Amiga	22
ROM Kernal: Exec, Lib & Devices	28
ROM Kernal: Includes & Auto Doc	27
+ means that disk is available	12

GENERAL BUSINESS

Advantage (The)	129
Citydesk v 2.0	129
Data Retreive (Not Professional)	52
Desktop Budget	52
Excellence - 1 Mb min Version	157
Excellence - 512K min Version	157
Family Tree (Your)	35
Haicalc	39
Kindwords	69
MaxiPlan Plus	125
Microfiche Filer Plus	119
Nag Plus 3.0	54
Nimbus Accounting V1.3	109
P.H.A.S.A.R. V3.0	69
Page Stream	129
Page Stream Fonts each	27
Pen Pal	99
Professional Draw	139
Professional Draw Structures	42
Professional Page V1.2	249
Professional Page Template	42
Prowrite V2.5	75
Publisher Plus	64
Scribble - Platinum Edition	99
TX ED Plus	59
Word Perfect	215
Works - Platinum	140

EDUCATION

Aesop's Fables	$32
Dinosaur Discovery Kit	29
First Letters & Words (3-8)	30
Fraction Action	32
Kinderama	32
Linkword:French	24
Linkword:German	24
Linkword:Spanish	24
Math Talk (5 - 13)	30
Math-amation (College)	55
Mavis Beacon Typing	36
Mother Goose	25
Mypaint	36
Puzzle Storybook (The)	29
Read A Rama	32
Rhyming Notebook*	29

ENTERTAINMENT

AD&D - Hillsfar	$35
AD&D - Pool of Radiance	35
Alien Syndrome	29
Artic Fox	17
Artura*	29
Aunt Artic Adventure	29
Baal	24
Bad Dudes	32
Balance of Power 1990	36
Bard's II:Destiny Knight	39
Bard's Tale I	33
Bard's II:Clue Book	12
Batman	32
Battle Chess	36
Battlehawks 1942	36
Battle Squadron*	35
Battletech	36
Blitzkrieg Ardennes 1MB	42
Blood Money	29
Bride of the Robot*	29
Bubble Bobble	27
California Games	29
Carrier Command	32
Centerfold Squares	24
Chrono Quest	36
Clue: Master Detective*	29
Craps Academy	32
Cribbage & Gin King*	35
Defender of the Crown	33
Dragon Force*	35
Dragon's Lair	39
Earl Weaver's Commisioner's Disk	17
Empire	36
Faery Tale Clue Book	9
Falcon	35
Falcon Scenery: Oper Cnt Strke	19
Fiendish Freddy's Big Top O' Fun	35
Fire Power	19
Gallieo V3.0	49
Gauntlet 2	36
Gone Fish'n - (Reel'n Fish'n)	35
Gunshoot	22
Halls of Montezuma*	29
Hole In One - Course Disk	17
Hole In One - Miniature Golf	26
Ice Hockey: Wayne Gretsky	35
Indy Jones:Last Crusade (Action)	29
Indy Jones:Last Crusade (Grphic)	35
It Came From the Desert	35
Jack Nicklaus - Champ 89 Course	15
Jet	35
Kingdom of England	32
Kings Quest 4*	36
Leaderboard Dual Pak	26
Lord of the Rising Sun	35
Lost Dutchman Mine*	35
Magic Johnson's Basketball	36
Marble Madness	19
Mean 18 Golf	27
Might & Magic 2*	42
Nuclear War*	35
Operation Wolf	27
Out Run	37
Paperboy	35
Planet of Lust	29
Populus	35
Power Drome	29
Purple Saturn*	24
Qix	29
Reach for the Stars	29
Red Lightning*	39
Romantic Encounters at Dome	27
Sex Vixens from Space	25
Shadow Gate	33
Shanghai	16
Silent Service	29
Sim City	32
Solitaire Royale	25
Star Fleet 1	39
Star Wars	27
Strip Poker II	29
Sword of Sodan	34
Swords of Twilight	35
Targhan	29
TV Sports Football	35
Test Drive 2: The Duel	34
Test Drive 2:Calif Scenery	17
Time & Magic	29
Tom & Jerry	20
Ultima IV	39
Universal Military - Vietnam Disk	15
Universal Military Simulator	35
Virus	25
War In Middle Earth	36
Where World-Carmen SanDiego	27

CREATIVITY/GRAPHICS

Analytic Art	$40
AniMagic	69
Award Maker Plus	35
Broadcast Titler	199
Business Card Maker	37
Celebrity Cookbook	27
Comic Setter	69
Comic Setter Clip Art each	25
Deluxe Paint II	72
Deluxe Paint III	109
Deluxe Photo Lab	99
Deluxe Productions	139
Design 3D	69
Digipaint V3	69
Digiview 3.0	139
Digiview Gold A500/A2000	139
Director	49
Express Paint V3	89
Fantavision	49
Forms in Flight 2	89
Home Builder's CAD	135
Icon Paint	29
Kara Color Fonts	55
Kara Fonts Headlines 2	49
Media Line Anim Backgrds	29
Media Line Clip Art Disk	24
Media Line Font Disk #1	24
Movie Setter	69
Opticks	69
Page Flipper Plus FX	99
Page Render 3D	99
Performer	42
Photon Paint	44
Photon Paint V2.0	109
Photon Video Cel Animator	99
Photon Video Trans Cont	195
Pixmate	45
Printmaster Art Gallery 2	22
Printmaster Fonts&Borders	25
Printmaster Plus	33
Pro Video Gold (formerly Plus)	199
Sculpt/Animate 4D	389
Sculpt/Animate 4D Jr.	105
TV Show	65
TV Text	65
Turbo Silver	139
Video Effects 3D	139
Video Scape 3D 2.0	125
Video Titler 1.1	99

SOUND & MUSIC

Deluxe Music Construction	$65
Dr T KCS V1.6a	165
Dr T Midi Recording Studio	49
Future Sound Samp A500/2000	139
M Intelligent Music	139
Perfect Sound A1000	65
Perfect Sound A500	65
Sonix: Soundtrax Vol1	15
Sonix: Soundtrax Vol2	15
Sound Oasis	69
Soundscape Pro Midi Studio	129
Synthia	65

UTILITIES/LANGUAGES

A Talk III	$65
Amax - MacIntosh Emulator	135
Ami...Alignment	39
Amiga Workbench 1.3	24
Amikit	34
Arexx V1.0	35
Assempro	64
Aztec C Developer Compiler	195
Aztec C Prof. Compiler	129
B.A.D Disk Optimizer	32
Benchmark Modula 2	129
Benchmark Modula 2: C language	69
Butcher 2.0	25
C.A.P.E. 68K v2.0	59
CLI Mate	27
Can Do	105
Cynes Ed Prof Text Editor	69
DOS-2-DOS	39
DSM	49
Diskmaster	39
FACC II	25
GOMF V3.0	27
Grabbit	20
Lattice C ++	219
Lattice V5.02 C Dev Package	205
Online - Platinum Edition	69
Pixelscript v1.1	109
Power Windows 2.5	59
Project D v1.1	35
Quarterback v2.2	49
Raw Copy 1.3	42
Virus Protection Toolbox	42

CHECK YOUR CURRENT MAILORDER HOUSE!
DO THEY

- ❑Advertise their shipping policy?
- ❑Offer fast, friendly and reliable service?
- ❑Have a fair return/exchange program?
- ❑Have 24 hour toll-free ordering?
- ❑Have in-house technical support?
- ❑Treat you with respect and value?

IS PRICE YOUR ONLY CONCERN? CALL US AND SEE HOW EASY MAILORDER CAN BE!

DYNAMIC DUO!



DIGIPAINT V3
THE ULTIMATE PAINT PROGRAM!
$69



DIGIVIEW GOLD
SIMPLY THE BEST!
$139

Combine the best video digitizer and the hottest HAM paint program with a Panasonic WV1410 camera, variable lens and a CS-1 copy stand for the most complete graphics workstation ever!

Package List Price $779

OUR PRICE $479
offer expires 12/31/89

COOL FRIENDS NEWTEK CLUB

AMI..ALIGNMENT SYSTEM
This Amiga drive evaluation and alignment program from Free Spirit Software has received rave reviews from all the major Amiga magazines. Get your copy now!
$39

BRIWALL WANTS TO BE YOUR CHRISTMAS MAILORDER SOURCE!

Free CHRISTMAS CLASSICS Disk (A $10 Value) shipped with any order over $100

Gift Cards Available Upon Request!

Gift Certificates Available in any $ amount.

We maintain an enormous inventory of Amiga software. If you don't see what you want, CALL!

Titles marked with * were not yet available when the ad was prepared. Please call for firm price and availablilty.

Australian Customers can order locally from Briwall Australia at: (062) 88 0131, or FAX (062) 88 0337

PACKAGES

8-Up 2MB	399
8-Up 4MB	615
8-Up 6MB	819
8-Up 8MB	1019
HardFrame 32MB	559
HardFrame 48MB	595
HardFrame 64MB	739
HardFrame 82MB	779
HardFrame 40MB Quantum	739
HardFrame 80MB Quantum	989
HardFrame 100MB Quantum	1035
HardFrame 135MB Imprimis15ms	1399
Kronos 32MB	549
Kronos 48MB	585
Kronos 64MB	749
Kronos 82MB	769
Kronos 40MB Quantum	729
Kronos 80MB Quantum	979
Kronos 100MB Quantum	1025
Kronos 135MB Imprimis 15ms	1389
Hurricane 030 882/25 4MB	2629
Hurricane080 882/25 4MB40Q	3159
Hurricane030 882/25 4MB80Q	3259
Impact A2000-2/0 40MB Q	799
Impact A2000-2/0 42MB SyQuest	1199
Impact A2000-2/0 48MB	649
Impact A2000-2/0 80MB Q	1049
Impact A2000-2/0 100MB Q	1095
Impact 2000-2/2	549
Impact A2000-2/2 40MB Q	899
ImpactA2000-2/2 42MB SyQuest	1449
Impact A2000-2/2 48MB	899
Impact A2000-2/2 80MB Q	1299
Impact A2000-2/2 100MB Q	1339
FastCard 32MB	499
FastCard 48MB	529
FastCard 64MB	649
FastCard 84MB	699
FastCard 158MB	1449
FastCard 40MB Qntm	699
FastCard 80MB Qntm	1069
FastCard 100MB Qntm	1245
FastTrack 32MB	710
FastTrack 40MB Qntm	899
FastTrack 48MB	739
FastTrack 64MB	879
FastTrack 80MB Qntm	1279
FastTrack 82MB	910
FastTrack 100MB Q	1449
FastTrack 158MB	1499
FrameBuffer FrameCapture 1MB	769
Meta4 2MB	475
Meta4 4MB	749
OverDrive 40Q	725
OverDrive 80Q	999
RC4 2000 512K (4MB max)	269
RC4 A500 512K (4MB max)	349
Spirit Inboard 512K (1.5MB max)	319
Spirit Inboard 1MB	410
Spirit Inboard 1.5MB	499
Spirit SIN 500 512KB(2MB max)	379
StarBoard II 512K	359
StarBoard II 1MB	449
StarBoard II 2MB	669
SupraRam A2000 4MB	529
SupraRam A2000 6MB	709
SupraRam A2000 8MB	888
Synergy 500 Case 64MB	829
Synergy 500 Case 158MB	call
Trumpcard 32MB	499
Trumpcard 48MB	529
Trumpcard 64MB	649
Trumpcard 84MB	699
Trumpcard 158MB	
Trumpcard 40MB Qntm	659
Trumpcard 80MB Qntm	910
Trumpcard 100MB Qntm	955
Trumpcard 500 32MB	559
Trumpcard 500 48MB (28MS)	579
Trumpcard 500 40MB Qntm	719
Trumpcard 500 80MB Qntm	969
Trumpcard500 100MB Qntm	1015
Trumpcard SyQuest & 1 cartridge	959
WordSync 32MB	499
WordSync 48MB	529
WordSync 64MB	679
WordSync 82MB	719
WordSync 40MB Quantum	679
WordSync 80MB Quantum	929
WordSync 100MB Quantum	975
WordSync135MB Imprimis15ms	1339

Quantum & SyQuest Sale! Check Out Our Prices!

HARDWARE

Hard Drive Case for 2 5.25" HH w/ 60w power supply & fan	79
Mounting Bracket 3.5" in 5.25" bay	11
Supra Internal Modem (A2000)	135
Supra External Modem	125
USR HST Courier9600 extrnl modem	659

ACCELERATOR BOARDS

A3001-4MB/Q	2799
A3001-4MB/40Q	3149
A3001-4MB/80Q	3599
Hurricane 68030	see packages
Impact A2000-030/25	929
Impact A2000-030/25-882/25	1449
Impact A2000-030RAM/4	1799
Impact A2000-030RAM/8	3299
Infinity Machine	call
Midget Racer w/68020	349
MidgetRcerw/68020/68881-16	519

DRAM

1 Mbx1 80ns	16
1 Mbx1 100ns	15
256KBx1 150ns	4
256Kbx4 100ns	16
256Kbx4 120ns	16
256Kbx4 120ns ZIP	19
256Kbx4 100ns ZIP	19

DRAW TABLETS

Kurta	call
A Pro Draw 12x12 w/cursor	499
Easyl 500	329

DRIVES (FLOPPY)

Amig-a-tosh	195
Amig-a-tosh Plus	245
Chinon A2000 Internal 3.5" floppy	99
FlexiData FD-10	139
FlexiData FD-20	249
Twin Drive	259
UniDrive	145
UniDrive Enhanced	159

DRIVES (HARD)

570MB Read/Write Optical Drive	
67ms w/built-in power control center	
Briwall Price	$3999
Cartridge for above drive	$299

20MB Seagate ST-125N 3.5" 40ms	call
32MB SeagateST-138N 3.5" 40ms	319
32MB SeagateST-138N-1 3.5" 28ms	call
40MB Quantum 3.5" 19/12ms	499
42MB SyQuestRemvbl 5.25" 25ms	699
42MB SyQuest Cartridge	109
48MB Seagate ST-157N 3.5"	349
48MB SeagateST-157N-1 3.5" 28ms	380
62MB Seagate ST-177N 3.5"	call
62MB SeagateST-277N 5.25" 40ms	515
80MB Quantum 3.5" 19/12ms	749
84MB Seagate ST-1096N 3.5"	call
84MB SeagateST-296N 5.25" 28ms	615
90MB 3.5" Fujitsu SCSI	999
100MB Quantum 3.5" 19/12ms	795
135MB 3.5" Imprimis 15ms	1159
136MB 3.5" Fujitsu	1259
182MB 3.5" Fujitsu	1489
200MB 3.5" Imprimis	call

EXP CHASSIS

Exp. Chassis A500	159
Exp. Chassis A1000	179
Exp Chassis A500 or A1000 w/pwr	239
Subsystem 500	249
Subsystem 1000	call

GENLOCKS

Amigen	149
Gen/One	595
ProGen	369
Magni 4004	1389
MiniGen	call
ScanLock	895
SuperGen	669
SuperGen 2000s	call

MEMORY

8 Up! DIP (OK)	185
Meta4 2-4MB RamCardA2000 OK	call
Meta4 2-4MB Trumpcard500 OK	call
MicroMegs (A501 substitute)	159
MiniMegs 1000 512K	310
MiniMegs 1000 1MG	439
MiniMegs 1000 2MG	624
MiniMegs 500 512K	299
MiniMegs 500 1MG	399
MiniMegs 500 2MG	599
MaxiMegs	call
RC4 RamCard A2000 (OK)	199
RC4 w/case,pwr & A500adpt(OK)	280
StarBoard II	269
StarBoard II Upper Deck	49
SupraRam A500	149
SupraRam A2000 2MB	169
ProRam A2000 2MB (8MB max)	639
SpiritInboard A500 or A1000(OK)	229
Spirit A500 SIN	269

MIDI/SOUND

A.M.A.S.	135
Golden Hawk A2000 Int Midi	75

MONITORS

Magnavox 515	call
Mitsubishi DiamonScan 14	529
Moniterm Viking 1	call
NEC 3D	649

PRINTERS

Abaton Quickstep Postscript Compatible Laser (uses Weitek RISC chip - FAST)	3349
Canon PJ1080A Color Ink Jet	519
CanonBubbleJet 360dpi/132clmn	799
Everex Laser HP compat	call
Fujitsu LED Postscript	call
HP PaintJet	call
Laser Express	2199
Okimate 20	155
Panasonic 1124	359
Sharp JX-730 13.5" Color Ink Jet (180x180 dpi)	call
Star NX-1000R Rainbow Color	259
Xerox 4020 Color Ink Jet	1139

SCANNERS



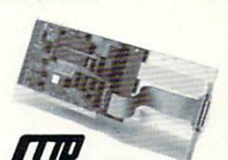
Han-D-Scan 310

100, 200, 300, or 400 DPI
Up to 16 grey levels
Includes Diamond Paint Program
Scan Width 4.13"

Cannon Scanner	call
Prof Scan & Sharp 8.5x11 color	call

SCSI

Fireball Hard Card 90MB	1159
Fireball H.C. 136MB	1449
Fireball H.C. 182MB	1689
Fireball H.C. 0MB	219
HardFrame 2000	249
Impact A2000-2/0	299
Impact A2000-HC/30	call
Impact A2000-HC/40Q	789
Impact A2000-HC/80Q	1159
Impact A2000-HC/100Q	1495
Impact SQ44-RHD	call
Advanced Autoboot EPROMS	110
Impact WT-150 Streaming Tape	849
Impact A500-HD/20m	599
Impact A500-HD/30	759
Impact A500-HD/40Q	949
Impact A500-HD/45	899
Impact A500-HD/80Q	1399
Impact A500-HD/100Q	call
Impact A500-2/0	70
Impact A500-2/2	299
Infinity Machine	call



Kronos 229

Supports removable media
Non DMA CLTD reports up to 891K transfers using Imprimis
Connect up to 7 computers to one drive

C ltd reports 891KB/sec with Imprimis

OverDrive	199
StarBoard II SCSI Module	99
Supra 500/1000 HardDrives	call
Synergy 500	219
Trumpcard	159
Trumpcard 500	219
Tiny Tiger II 90MB	1149
Tiny Tiger II 136MB	1429
Tiny Tiger II 182MB	1679
Tiny Tiger II Host Adapter	125

WORD SYNC $175

New from Supra - Best Brackets
16-bit Interface, non-DMA
Quick Perf 2 test:
508K read, 289K write
with Quantum 80s

VIDEO

Color Splitter	89
Flicker Fixer	479
FlickOff	389
Frame Buffer Frame Capture(OK)	599
FrameGrabber	529
Live! 1000	249
Live! 500	285
Live! 2000	319
Panasonic WV1410 Camera	189
Rainbow 16mm Lens w/variable iris	49

Actual shipping costs on hardware

Palette Printer $25 with purchase of any color printer

LET US PUT A CUSTOM PACKAGE DEAL TOGETHER FOR YOU!

Mix-N-Match Components To Get The System You Really Want!

We have qualified technicians ready to answer questions and assemble the package for you!

Please Call -- M-F, 9-5 EST

Assemble the package yourself and save money!

AMIGA

1084 Monitor	call
Amiga 68020/68881 w/2MB	call
Amiga 500	call
520 RF Video Adapter	call
Amiga 2000, 2000HD, 2500	call
2088XT Bridgeboard	call
2286AT Bridgeboard	call
Kickstart 1.3 ROM chip	call

BRIWALL

SOLID PRODUCTS & SOLID SUPPORT
PO Box 129/58 Noble Street
Kutztown, PA 19530

Toll Free 24 Hour Order Line: 1-800-638-5757

24 Hour Order Line Outside USA 1-215-683-5433

24 Hour FAX Line: 1-215-683-8567
Customer Service: 1-215-683-5433
Technical Support: 1-215-683-5699

PLEASE COME VISIT US!

Monday – Friday 9 am–6 pm EST
Saturday 9 am–12 Noon EST

VISA MasterCard

'We Have Gift Certificates'

FREE NEWSLETTER SUBSCRIPTION WITH EVERY ORDER

Supra Corporation

Supra RAM 2000 w/2MB	$349
Supra External Modem	$125
Supra RAM 500	$105
20MB Supra Drive A500	$495
30MB Supra Drive A500	$629
45MB Supra Drive A500	$739
60MB Supra Drive A500	$859
80MB-Q Supra Drive A500	$999
2MB RAM for above Drives	$299

For A1000 Drives add $90 to the A500 prices

Word Sync + SyQuest + Cartridge $939

SHIPPING POLICY: All ORDERS received before 3PM EST will normally be shipped within 2 business days. Out of stock items will be shipped by the same shipping method as original order, normally within 3 or 4 business days. All UPS shipments are sent SIGNATURE REQUIRED/NO DRIVER RELEASE. ADD the following shipping charges to your TOTAL software order.

UPS: Ground $4.00 (cont USA ONLY). Air/Rush $7.00 (includes Puerto Rico/Hawaii). Overnight $12.00 + $2.50 per item (must be received by 12 NOON).

PRIORITY MAIL: USA $4.00 (includes APO/FPO). Canada/Mexico $6.00. Other Foreign $4.00 Handling + Actual Shipping + Insurance.

ORDERING INSTRUCTIONS: For your convenience, you can place a phone order 24 HOURS/ 7 DAYS A WEEK on our TOLL–FREE LINE 1 800 638 5757. Outside the USA, please use (215) 683 5433. Price, availability and compatibility checks are also welcome on our order line, Monday thru Friday, 9:30AM-4:30PM EST. AFTER HOURS, Orders Only, Please! When placing an order, please specify your computer model, home & daytime phone number, shipping address, charge card number, expiration date & name of bank.

ACCEPTED PAYMENT METHODS: We welcome payment by PREPAID (by Personal Check or Money Order), MASTERCARD, VISA, SCHOOL PURCHASE ORDERS. COD orders are welcome for established Briwall Customers Only ($4.00 additional). All payments must be in USA DOLLARS. There is no Surcharge for Credit Cards and your card is NOT charged until we ship!

RETURN POLICY (for software and accessories ONLY): We have a liberal return policy to better service your needs. If within 15 days from the time you receive an item, you are not satisfied with it for any reason, you may return it to us for either a refund, exchange or open credit. REFUNDS ARE SUBJECT TO A 10% RESTOCKING FEE PER ITEM RETURNED ($5.00 MINIMUM PER ITEM). EXCHANGES/OPEN CREDITS will gladly be issued for the full purchase price of the item. DEFECTIVE Items, Hardware items and Special Order items will be replaced with the same item only.

TECHNICAL SUPPORT (M-F - 9:30AM-5PM EST) We do our very best to help you with your product selections, before you order and after you receive your product. General questions, price, compatibility with your computer, etc. will be handled by our order staff at the time you place your order. BUT, if you have specific, detailed questions about a product, printer, compatibility questions, etc., you will get the most help from our TECHNICAL SUPPORT LINE 215 683 5699.

HELP KEY

Tidings of comfort and joy for troubled Amiga users.

By Louis R. Wallace

WRONG DIMENSION

Q: *When I dimension 2-D Amiga Basic arrays with more than 70 elements each—DIM A%(80,80), for example—I get an "out of memory" error message. I assume this must be the limit of Amiga Basic's memory, because my Amiga has over three megs of RAM. Is there any way to get around this? Do other BASICs allow larger arrays?*

B. Cozad
Ann Arbor, MI

A: The limitation you mention is caused by Amiga Basic's *default* memory configuration. When Amiga Basic first starts it only allows 25K of RAM for programs. To access more, you must begin your programs with the CLEAR command followed by the amount of memory you want Amiga Basic to use. In the following example I allocated 200,000 bytes and was able to dimension an array of 90,000 elements. If you need more, just clear a larger amount. A good practice is to free that memory when the program is finished by issuing the CLEAR command again.

```
'allocate memory
CLEAR,200000&
'declare large array
DIM A%(300,300)
'your program's body
'would be here
'restore memory on exit
CLEAR,25000
END
```

As for other BASICs offering large arrays, both the AC-BASIC (Absoft) and Hi-Soft BASIC (distributed in the U.S. by MichTron) compilers allow you to use very large amounts of memory in your compiled programs.

32-BIT FUTURE

Q: *I want to add memory to my Amiga, but I want it to be compatible with future hardware upgrades. Should I buy 32-bit memory?*

J. Williams
Mannford, OK

A: Unless you already have a 32-bit CPU (a 68020 or a 68030), 32-bit memory makes no sense. For now, install a conventional memory board. Although it will not be 32-bit wide memory, the RAM will still be usable if you upgrade to a 32-bit CPU. You can decide then whether to add a 32-bit RAM board. Currently, the Commodore A2620 68020 board comes with two megabytes of 32-bit memory and is expandable to four. Other boards (such as Great Valley Product's impressive 68030 accelerator card) can contain up to eight megabytes of 32-bit RAM.

RAMDOS RESCUE

Q: *I am having trouble with my file RAMDOS. The listing is:*

```
makedir ram:c
copy df0:c/copy ram:c
ram:c/copy df0:c/cd ram:c
ram:c/copy df0:c/delete ram:c
ram:c/copy df0:c/info ram:c
ram:c/copy df0:c/dir ram:c
assign c: ram:c
df0:c/path df0:c
```

After executing this, all the files I need are in RAM: and work perfectly. When I leave the CLI by executing an ENDCLI command, I can no longer return to the CLI. I point and click on the CLI icon and nothing happens. According to Workbench's Last Error option, no error seems to occur. Help!

C. Abbate
Oak Park, IL

A: The simplest solution is to replace the last two lines of your RAMDOS batch file with:

```
df0:c/path ram:c
```

This command will give you high-speed access to the above commands from the RAM disk, and will allow you to exit the CLI via an ENDCLI command and return by clicking the CLI's icon.

A far better method is to use AmigaDOS 1.3's Shell instead of the CLI. With the Shell you can make the above commands resident, available to all the Shells you open. Try adding the following to your Startup-Sequence in the S: directory of your boot disk:

```
resident df0:c/info
resident df0:c/cd
resident df0:c/delete
resident df0:c/dir
```

MAKE A LIST

Q: *I am a new Amiga owner and want to use this wonderful machine for some very large databases. As owner/manager of an international toy distribution facility, I need to keep a record of all the possible recipients of my products. The database would contain important information such as the person's name and address, what kind of products they requested, and, most importantly, meaningful information describing the individual's behavioral patterns during this calendar year. It would be nice if I could keep a picture of the person in the file too. I also need to keep track of such things as the amount of reindeer chow I buy, as well as a small-employee personnel file. What do you think would work?*

S. Nicholas
North of Canada

A: I suggest either Superbase Professional (Precision Incorporated) or DataRetrieve Professional (Abacus). Both should be able to do what you need. ■

M.C.S. WE DON'T CLAIM TO HAVE THE LOWEST PRICES ON AMIGA . . .

3.5 DS/DD 59¢ 100 LOT QTY. 69¢ (10)

WE PROVE IT!

NOBODY BEATS US!

THINK YOU FOUND A GOOD DEAL? OURS WILL BE BETTER!

SUPRA $99 2400
LTD. QTY.
EXTERNAL

- Supra 2400i ... 98
- Supra 2400ZI ... 125
- Avatex 2400 E ... 108
- Avatex 2400 ... 130*

W/Cable Purchase-Add $10 Alone

512 K RAM
A 500
FROM $99 LTD. QTY.
Or Lower To Beat Competition

CONTROLLERS
★Hardframe ★Supra ★GVP ★Xetec ★IVS ★C Ltd
New Low Prices!

HARD DRIVES
Or Lower To Beat All Competition!

Drive Type	Trump 2000	Drive Only	Xetec FC 2000	Xetec FC 500	Trump 500	GVP 2000	GVP 500
3.5 DRIVES	Other Drive Sizes Available - Call						
30MG ST-138N	475 DEL	310	465 DEL	655 DEL	545 DEL	625	750
49MG ST-157N	518 DEL	348	515 DEL	695 DEL	575 DEL	—	—
60MG ST-177N	755 DEL	568	748 DEL	915 DEL	795 DEL	—	—
QUANTUM 40MG	625 DEL	525	625 DEL	825 DEL	675 DEL	780	995
QUANTUM 80MG	945 DEL	895	945 DEL	1135 DEL	995 DEL	1050	1375
QUANTUM 100MG	1025 DEL	925	1025 DEL	1215 DEL	1075 DEL	1150	1475

MISC.
- Gen One ... 499
- Processor Accelerator ... Call
- Panasonic 1410 ... 185
- Super Gen ... 670
- CSA Midget racer ... Call
- Sony 3.5 DS/DD ... 12(10)
- Subsystem500/1000 ... 220
- Hardframe ... 238
- Digiview Gold ... 128
- Digidroid ... 62
- Copystand ... 55
- Mini Gen ... 190
- Image Scanner ... Call
- GVP Systems ... Call
- Frame Grabber ... 520
- Gold Disk Scanner ... Call
- Amiga Mouse ... $42
- VI500 Video Interface ... 59
- Easyl 500/1000/2000 ... from299
- Flicker Fixer ... 440
- Scanlock ... $800
- Elec.ColorSpltr ... 90
- Live 500/1000/2000 ... Call
- Syquest 44 mg ... Call

AMIGA 3.5 EXTERNAL DRIVES
FROM $99 LTD. QTY.

- 3.5 Internal ... 98
- 3.5 Dual Drive ... 245
- Amiga 1020 Drive ... 180

OR LOWER!

- Master 3A
- Flex Data
- Unidrive & More!

STAR $219* RAINBOW
- NX1000 II ... 175*
- Okimate 20 ... Call
- Panasonic 1180 ... 179*
- Panasonic 1124 ... 300*

*W/2 Ribbon Purch-Add $10 alone
OR LOWER!

AMIGA 20MG HD
FROM $499 COMPLETE
- Phoenix
- C Ltd
- Vault
- Xetec
- Supra
- Many More! Call!

PRICED TO MOVE

2 MG RAM
A 2000 from $398
OR LOWER!
- Megaboard 2000 (2mg)
- Starboard 2.0K
- Pro Ram 2000
- 8-Up Board
- Inboard O.K.

WE BEAT ALL COMPETITION

ABACUS
- Amiga Dos Tool Box ... $36
- Disk Drives Inside/Out ... $27
- Amiga Tricks & Tips ... $18
- Amiga C Adv ... $33
- Amiga Dos Inside/Out ... $18
- Amiga Machine Lang ... $18
- Amiga C for Beginners ... $15
- Amiga Sys prog. Guide ... $33
- Amiga Basic Inside/Out ... $23
- Amiga for Beginners ... $15
- Amiga 3D Graphics ... $18
- More Tricks & Tips ... $18

ABSOFT
- AC/Basic 1.3 ... $117
- AC/Fortran ... $180

ACCESS
- Leader Board Dual Pk ... $21
- World Cls Ldr Board ... $27

ACTIONWARE
- Prison ... $24
- Capone ... $24
- Phaser Gun ... $46
- P.O.W. ... $24

ACCOLADE
- Jack Nicklaus Chp Crs ... 12
- Super Cars ... $14
- Shoot em-up Const. Kit ... $15
- Heavy Metal ... $27
- California Challenge ... $14
- Bubble Ghost ... $21
- Famous Courses Vol 2 ... $12
- Hard Ball ... $27
- Jack Nicholas Golf ... $30
- Mean 18 ... $27
- Test Drive II ... $27

ACTIVISION
- Battle Hawks 1942 ... $30

ADDISON-WESLEY
- Includes & Auto Docs ... Call

AEGIS
- AniMagic ... $60
- Audiomaster 2.0 ... $60
- Draw 2000 ... $168
- Lights Camera Action ... $48
- Modeler 3D ... $60
- Sonix ... $48
- Video Titler ... $90

AMIGA
- 1.3 Enhancer ... $20

ANTIC
- Design Disks ... $21
- Phasar 3.0 ... $60
- Zoetrope ... $84

ARCADIA
- Artura ... 24

AROCK COMPUTER SOFTWARE
- Masterpiece Pro Fonts ... $150

ARTWORX
- World Snooker ... $21
- Bridge 5.0 ... $21
- Centerfold Squares ... $18
- Linkword Languages ... $18

- Strip Poker 2 ... $24

ASDG
- FACC II ... $21

AVANTE GARDE
- Benchmark Module 2 ... $120

BAUDVILLE
- Award Maker Plus ... $30
- Sports Library ... $18

BETHESDA
- Wayne Gretzky Hockey ... $30

BRITANNICA
- Jigsaw ... $30
- Designasaurus ... $30

BRODERBUND
- If It Moves Shoot It ... 18
- License to Kill ... 21
- Joan of Arc ... 27
- Shufflepuck Cafe ... 24
- Downhill Challege ... 21
- Archipelagos ... $24
- Omniplay Basketball ... 30
- Carmen SanDiego World ... $27
- Sim City ... $27
- Fantavision ... $36
- Star Wars ... $24

BROWN WAGH
- Easyledger ... $180
- Pen Pal ... $90

BUENA VISTA
- Roger Rabbit ... $27

BYTE BY BYTE
- Sculpt 3D XL ... 100
- Sculpt Animate 4D ... 390
- Sculpt/Animate 4D Jr ... $90

CENTAUR SOFTWARE
- World Atlas ... 36
- B.A.D. ... $30

CENTRAL COAST
- MAC to DOS ... Special
- DOS 2 DOS ... $33
- Quarterback ... $42

CINEMAWARE
- Deathbringer ... $26
- Darkside ... $26
- It came from the desert ... $32
- Speedball ... $26
- Total Eclipse ... $26
- Kristal ... $32
- Federation ... $32
- King of Chicago ... $15
- Lords of Rising Sun ... $32
- Rocket Ranger ... $32
- S.D.I. ... $15
- Sinbad ... $15
- 3 Stooges ... $32
- Defender of the Crown ... $30
- T.V. Sports Football ... $32

DATA EAST
- Bad Dudes ... $27
- Rambo III ... $21
- Batman ... $27
- Robocop ... $30

DIGITEK
- Extra Courses ... $12

- Hole 1 Mini Golf ... $24

DISCOVERY
- Arkanoid ... $20
- Grabbit ... $18
- Hybris ... $24
- Sword of Sodan ... $30
- V.I.P. ... $30
- Zoom ... $18

DR. T MUSIC SOFTWARE
- KCS Level II ... $210
- Copyist Pro. 2 ... $168
- K.C.S. ... $150
- Midi Recording Studio ... $42

EASEWARE
- Home Builders Cad ... $120
- Home Builders Ch ... $49

ELAN DESIGN
- Invision Req. Live ... $135
- Performer ... $36

ELECTRONIC ARTS
- Deluxe Paint Ii ... $48
- Power Drome ... $26
- Lancelot ... $26
- Indy Jones Last Crusade ... $26
- Swords of Twilight ... $32
- Might and Magic II ... $38
- Populos Data Disk ... $20
- Demons Winter ... $26
- Populous ... $32
- MI BPA Stats ... $14
- Lancelot ... $20
- Time and Magic ... $26
- AAARGH ... $23
- Alternate Rlty(city) ... $26
- Awesome Arcade Pk ... $32
- Bard's Tale ... $32
- ChessMaster 2000 ... $29
- Commissioners Disk ... $14
- Deluxe Music ... $62
- Deluxe Paint III ... $92
- Deluxe Photo Lab ... $92
- Deluxe Productions ... $122
- Deluxe Video 1 2 ... $80
- Double Dragon ... $26
- Earl Weaver ... $32
- FA/18 Intercepter ... $32
- Ferrari Formula 1 ... $32
- Marble Madness ... $32
- Master Ninja ... $20
- Mavis Beacon ... $32
- Wizard Wars ... $26
- Zany Golf ... $26

EPYX
- Revenge of Defender ... $21
- Purple Saturn Day ... $24
- Project Neptune ... $24
- California Games ... $30
- Games Winter Edition ... $30
- Impossible Mission 2 ... $15
- Technocop ... $30
- 4x4 Road Racing ... $15

FIRST BYTE
- First Letters & Words ... $26
- First Shapes ... $26

- Kid Talk ... $32
- Math Talk ... $32
- Math Talk Fractions ... $26
- Smoothtalker ... $26
- Speller Bee ... $26

FREE SPIRIT
- Ami-Alignment ... $30
- Planet of Lust ... $24
- Securities Analyst ... $48
- Sex Vixons from Space ... $24

FTL
- Kaos Strikes Back ... Call
- Dungeon Master ... $24

FULLER COMPUTER
- Project D ... $30

GOLD DISK
- Prof. Page 1.3 ... $210
- Advantage ... $120
- Movie Clips ... $21
- Comic Setter Data Disks ... $21
- Structured Clip Art ... $Call
- Transcript ... $42
- Pro Page Templates ... $36
- Pro Draw Clip Art ... $36
- Desk Top Budget ... $42
- Design 3D ... $60
- Comic Setter ... $60
- Movie Setter ... $60
- Prof Draw ... $120

IMPLUSE
- Turbo Silver ... $120

INCOGNITO
- Optics ... Special
- Kingdoms of Englan ... $27

INFOCOM
- Journey ... $30
- Shogun ... $36
- Zork Zero ... $36
- Battletech ... $30

INNOVISION
- Broadcast Titler ... $180
- Video Effects 3D ... $120

INTERPLAY
- Battle Chess ... $30
- Neuromancer ... $24

JDK IMAGES
- Pro Video Gold ... $180
- Font Libraries ... $78

KARA
- Subheads ... $42
- Headlines 2 ... $42
- Kara Fonts ... $48

LATTICE
- Lattice 5.0 ... New Price

MANX
- Aztec C Developers ... $195
- Aztec C Pro ... $130
- Library Sources ... $180
- Source Level Debugger ... $75

MELBOURNE HOUSE
- World Trophy Soccer ... $Call
- War in Middle Earth ... $30
- Magic Johnson B-ball ... $30

MICRO DEAL
- Amas ... $Special
- 4 Player Adapt ... $Call
- International Soccer ... $24

MICROILLUSIONS
- Dr. Plummet ... $21
- Turbo ... $18
- Black Jack Academy ... $24
- Craps Academy ... $24
- Data Disks ... $12
- Discovery Math or Spell ... $24
- Faery Tale ... $30
- Photo Vid Cel Animator ... $90
- Music X ... $180
- Photon Paint II ... $90

MICROMASTER
- Your Family Tree ... $30

MICROPROSE(Microplay)
- Savage ... $24
- K.VanEron ProSoccer ... $21
- Gunship ... $36
- Silent Service ... $24

MINDSCAPE
- Paperboy ... $30
- Gauntlet II ... $30
- Thunderblade ... $30
- Action Fighter ... $24
- Indiana Jones ... $24
- Balance/Power 1990 ... $30
- Captain Blood ... $30
- Combat Course ... $24
- Hostage ... 27
- Indoor Sports ... $30
- Outrun ... $30
- Shadowgate ... $30
- Space Harrier ... $30
- Superstar Ice Hockey ... $30
- Uninvited ... $30
- Alien Syndrome ... $24
- RoadRaider ... $30
- Deja Vu II ... $30

MINDWARE
- Aunt-Artic Adventure ... $24
- Pg Flipper Plus F/X ... $96

MSI
- Raw Copy ... $36

M.S.S.
- Online! Platinum ... $60
- Excellence ... $150
- Scribble Platinum Ed ... $90
- Works Platinum Ed ... $177

NEW HORIZONS
- Flow ... $60
- Postscript ... $30
- Pro Fonts 1 or 2 ... $21
- Pro Write 2.5 ... $75

NEWTEK
- Digi Paint III ... $60
- A500 Adapter ... $20
- Digidroid ... $62
- Digiview 3.0 Upgrade ... $12
- Digiview Gold ... $128

NEW WAVE SOFTWARE
- Dynamic Drums ... $48
- Dynamic Studio ... $120

- Sound Oasis ... $60

ORIGIN SYSTEMS
- Windwalker ... $24
- Omega ... $30
- Times of Lore ... $24
- Ultima IV ... $36

OTHER GUYS
- Synthia Professional ... 237

OXXI
- Nimbus 2.0 ... $96
- A-talk 3 ... $60
- Maxiplan 500 ... $90
- Maxiplan Plus ... $120

PARAGON
- Dr. Dooms Revenge ... $27

PRECISION SOFTWARE
- SuperBase Personal ... $48
- SuperBase Personal II ... $90
- SuperBase Pro. 3.0 ... $210
- Super Plan ... $90
- Pro Sound Designer ... $96

PROGRESSIVE
- Dunlap Utilities ... $48
- Baud Bandit ... $30
- CLI-mate ... $24
- Disk Master ... $30
- IntroCad ... $48
- Mathamation ... $48
- Pixmate ... $42

PSYGNOSIS
- Stryx ... $21
- Nevrmind ... $21
- Shadow of the Beast ... $30
- Blood Money ... $24
- Baal ... $18
- Ballistix ... $21
- Barbarian ... $24
- Captain Fizz ... $18
- Chrono-Quest ... $30
- Menace ... $18
- Obliterator ... $24
- Terror Pods ... $24

READY SOFT
- A-Max Roms ... $230
- Amiga-Tosh Drive ... $190
- A-Max Pkg Price ... $Special
- A-Max ... $120
- Dragon's Lair ... $36

RGB
- Deluxe Help ... from $21

RIGHT ANSWERS GROUP
- Director ... $42
- Director Tool Kit ... $24

SIERRA
- Spacequest III ... $Call
- Leisure Suit Larry II ... $30

SOFTLOGIC
- Page Stream ... $120
- Page Stream Fonts ... $24

SOFTWARE VISIONS
- Business Designer ... $36
- Home Designer ... $24
- MicroFiche Filer Plus ... $108

SPECTRUM HOLOBITE
- Vette ... $30
- Falcon Mission Disks ... $15
- Solitaire Royal ... $21
- Falcon ... $30
- Tetris ... $21

SSI
- Hillsfar ... $32
- Star Command ... $32
- Heroes of the Lance ... $26
- Kampfgruffe ... $38
- Questron 2 ... $32

SUBLOGIC
- Flight Simulator II ... $32
- Jet ... $32
- Scenery Disks ... from $18

SUNRIZE INDUSTIES
- Image Scan ... Call
- Elctr Color Splitter ... $94

TAITO
- Qix ... $21
- Rampage ... $24
- Bubble Bobble ... $21
- Operation Wolf ... $21
- Renegade ... $21

THREE SIXTY INC.
- Dark Castle ... $27
- Thunder Ridge ... $24

TITUS
- Night Force ... $27

UNICORN
- All About America ... $36
- All other titles ... $30

UNISON WORLD
- Art Glry 1 & 2 Combo ... $24
- Fantasy ... $18
- Fonts & Borders ... $21
- Printmaster Plus ... $30

VISIONARY DESIGN
- Vortex ... $24
- Datastorm ... $24

WILLIAM HAWES
- Arexx ... $30
- W-Shell ... $30

WORD PERFECT INC.
- Library ... $78
- Word Perfect ... $150

IMPORTS
- Bloodwych ... $33
- Postman Pat ... $24
- Targham ... $30
- Rick Dangerous ... $30
- Roll Out ... $21
- Black Magic ... $21
- Kennedy Approach ... $30
- Airborn Ranger ... $30
- Leonardo ... $27
- F-16 ... $30
- Too Many to List ... $Call

IF YOU DON'T SEE IT..CALL

Orders Only: M-F 10-8 Sat 10-6

800-433-7756

In Michigan 313-427-7713

Customer Service
10-5PM EST (M-F)
313-427-0267

FAX
313-427-7766

No Surcharge for MC/VISA/DISCOVER

M.C.S.

Send Mail Orders To: **MCS.** 12868 Farmington Rd., Livonia, MI 48150

Sorry no walk in traffic

All returns must have RA #. Merchandise found defective will be repaired or replaced. We do not offer refunds for defective products or for products that do not perform satisfactorily. We make no guarantees for product performance. Any money back guarantee must be handled directly with the manufacturer. Call for shipping & handling info. Prices subject to change without notice. Shipping & Handling are not refundable.

NO REFUNDS

Returned products subject to a 20% restocking fee.
12864 FARMINGTON ROAD, LIVONIA, MI 48150
We cannot guarantee compatibility

DEALER INQUIRIES INVITED

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

1A. Title of publication: AmigaWorld. 1B. Publication no.: 08832390. 2. Date of filing: Sept. 25, 1989. 3. Frequency of issue: monthly. 3A. No. of issues published annually: 12. 3B. Annual subscription price: $29.97. 4. Complete mailing address of known office of publication: 80 Elm Street, Peterborough, Hillsborough County, New Hampshire 03458. 5. Complete mailing address of the headquarters of general business offices of the publisher: 80 Elm Street, Peterborough, Hillsborough County, New Hampshire 03458. 6. Full names and complete mailing address of publisher, editor, and managing editor: Publisher: Stephen Robbins, 80 Elm Street, Peterborough, NH 03458. Editor: Douglas Barney, 80 Elm Street, Peterborough, NH 03458. Managing Editor: Shawn Laflamme, 80 Elm Street, Peterborough, NH 03458. 7. Owner: International Data Group, PO Box 1450, 5 Speen Street, Framingham, MA 01701. 8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities: Patrick J. McGovern, PO Box 1450, 5 Speen Street, Framingham, MA 01701. 9. For completion by nonprofit organizations authorized to mail at special rates: not applicable. 10. Extent and nature of circulation: (X) Average no. copies each issue during preceding 12 months; (Y) Actual no. copies of single issue published nearest to filing date; A. Total no. copies (X) 181,616 (Y)178,688. B. Paid and/or requested circulation: 1. Sales through dealers and carriers, street vendors and counter sales: (X) 44,666 (Y) 42,703. 2. Mail subscription: (X) 49,107 (Y) 49,525. C. Total paid and/or requested circulation: (X) 93,773 (Y) 92,228. D. Free distribution by mail, carrier or other means (samples, complimentary, and other free copies): (X) 3,785 (Y) 4,442. E. Total distribution: (X) 97,558 (Y) 96,670. F. Copies not distributed: 1. Office use, left over, unaccounted, spoiled after printing: (X) 1,666 (Y) 3,013. 2. Return from news agents: (X) 82,392 (Y) 79,005. G. Total: (X) 181,616 (Y) 178,688.

$50 REWARD!

$500 GRAND PRIZE!

FAME!

You could be $50 richer and lots more famous. All it takes is an Amiga (we trust you've got one), a bit of talent, and a hankering for the big time. Just send us your best animation. If judged worthy for the AmigaWorld Animation Video, we'll send you $50, and stick you in our new (it ain't even finished yet!) video. And if we think your animation is the best, why, we'll mail you off a check for $500.

You must be the creator, and must have created the work on an Amiga. Send it off to us on standard 880K-byte floppies, and become a part of the coolest group of Amiga animators ever assembled. We will assume the right to put your animation on our video, but you retain all other rights. Please include on disk an IFF screen specifying names of involved parties as well as products used. Then blast your stuff off to:

AmigaWorld Animation Contest
80 Elm Street
Peterborough, NH 03458

PREMIER SOFTWARE

▶ User friendly
▶ Ready to run
▶ Icon based

AMIGA

PUBLIC DOMAIN AND SHAREWARE PROGRAMS

Public Domain like you've never seen. Disks organized by topic. Buy only the software you want. Games, Demos, Tools, Utilities, Pictures, Icons and more. . .

Send $3.00 for catalog on disk to:
Premier Software
PO Box 3782, Redwood City, CA 94064
or call: (415) 364-4696

Circle 272 on Reader Service card.

PIC-MAGIC™

PROFESSIONAL CLIP ART



PACKAGE ONE:
GENERAL IMAGES.

LOOK FOR:
Package Two: International Symbols.

FOR MORE INFORMATION CALL THE HOTLINE
1-800-387-8967

Joe's First Company Inc.
P.O. Box 579 Station Z
Toronto, Ontario.
M5N 2Z6 Canada
Tel: (416) 322-6119
Fax: (416) 489-1620

Circle 277 on Reader Service card.

Christmas is coming - give your children the gift of learning.

Educational and loads of fun.

They will never know they are learning.

Very easy to use.

Ages 4 to adult.

Digitized and synthetic sound.

Children find it challenging - Adults find it impossible.

Fifteen games total.

Thirteen stretch your memory to the limits,

one challenges your organizational skills,

and one provides you with the music to calm the savage beast.

Tracker's

Your job, as the tracker, is to follow the elusive and dangerous wild computer beast where ever it may go.

Just be sure to stay on the path.

Also -

Quest

Can you follow the trail?

$ 34.95

Tumbling Geometries
Gravity, friction, and fun. $34.95.
or
both for $49.95.

Call 1-800-826-1799
for sales and
and information.
(503) 886-9075 outside US.

Backwoods Software is a division of Computational Software Solutions, Inc.

BACKWOODS SOFTWARE

Circle 286 on Reader Service card.

ICONLAB 1.3
by HERMES

- All Icon/Brush Options (I→B, B→I, etc.)
- All Icon Data Options (Split, Join, etc.)
- Shows/Draws/Paints Icons in 2–16 colors.
- Shows and Loads all Disk Fonts.
- Reduces IFF Pictures to Icon Sizes.
- Reduces IFF Pictures to WorkBench Ones.
- Cuts/Shows/Saves IFF Pictures/Brushes.
- More! Amiga 500/1000/2000.

Send $35.00 (US) to:

A.G. KARTSATOS
8524 Caladesi Drive
Temple Terrace, FL 33637-7310, USA

Circle 273 on Reader Service card.

EARN $1,000,000 INCOME!

with your own
low cost FCC-Licensed
TV STATION!



That's Right! The FCC has ***recently*** permitted US Citizens, 18 years or older, to license and operate independently owned community TV stations on available channels 2 through 69! Operational Cost (24 hrs/day) is less than 25¢/HOUR!

We can assist you in getting your station **completely** on the air for LESS THAN THE COST OF A NEW CAR!

There has never been an opportunity like this before!

Get started today! Complete info course & audio cassette with 30 day money back guarantee! Send **$33.00** (plus $7.50 s/h)

To: Tootlevision / Tulsa TV 33
2606 S. Sheridan, Suite B
Tulsa OK 74129

Call 1 (800) 332-LPTV
(OKLA) (918) 836-1120

For more information send us a self-addressed, stamped envelope or check reader service card (OKLA Res add 7%) Allow 5–7 days

Circle 295 on Reader Service card.



Don't let those finger aerobics get you down! There's an easier way to change between your mouse and joystick, instantly with just a touch of a button. It's the handiest switchbox around.

MOUSE MASTER

(602) 322-6100

$39.95

plus shipping & handling.
MC, Visa, COD's welcome

Practical Solutions®

1135 N. Jones Blvd. • Tucson, AZ 85716

Circle 293 on Reader Service card.

TRY "IA" FOR *hyper* SPEED!

the INTERACTOR File Folder Interface

Interactive authoring systems should do more than integrate animation, sound and text. IA does. They should be efficient, intuitive and FAST. IA is. And with collision detection, scorekeeping, and laserdisk support, INTERACTOR has all the features You'll need to create visual databases or videogames! For $99, that's a package that pays for itself, FAST.

VeRY ViViD

INTERactor

INTERACTIVE GRAPHICS PRESENTATION SYSTEM
Very Vivid Inc. POB 127, Stn B. Toronto, Canada M5T-2T3 tel.(416)686-7850

Circle 291 on Reader Service card.

AMIGA
WELCOME TO

Clas



Computerized Lesson Authoring System

- **Create Your Own Software**
- **Use Plain English Commands**
- **Then Let Your Amiga Write The Program**

For use in homes, schools and businesses
For more information, call or write:

MicroEd TOUCH TECHNOLOGIES

PO Box 24750
Edina, MN 55424 (612) 929-2242

MEMORY FOR LESS

D RAM BLOWOUT!!

D RAM BLOWOUT

256×1 150n.s.	$4.00	ea.
256×1 120n.s.	5.00	ea.
256×1 80n.s.	6.00	ea.
1 meg×1 100n.s.	14.00	ea.
1 meg×1 80n.s.	15.00	ea.
256×4 80n.s.	14.00	ea.

CPUs for Repair or Accelerators

68010	8 Mhz	$ 35.00
68020	16 Mhz	.72.00
	20 Mhz	109.00
	25 Mhz	139.00
	33 Mhz	145.00

Math Co's

68881	12 Mhz	.72.00
	16 Mhz	.81.00
	20 Mhz	109.00
68882	16 Mhz	109.00
	25 Mhz	189.00

MEMORY WORLD
219 MARKET ST.
PHILADELPHIA, PA 19106

215-238-1015

VISA / MC / CHECK / COD

Circle 287 on Reader Service card.

InfoMarket

MCP Associates, Inc.

AUTHORIZED AMIGA DEALER
REPAIRS — SERVICE

Computer Systems Hardware Software
A500 A2000 A2000HD A2500
Installations Competitive Pricing Applications
SPECIAL: 2MB Memory Boards, from $449.95
S/H: Min $7.50: Write/Call for AMIGA Product Lists
Visit Our Retail Store—Convenient Parking—Deliveries Arranged
28–21 Astoria Boulevard, Astoria, NY 11102-1933
Tel: 1-718-956-9000 Fax: 1-718-956-9028

NEW! Colorful IFF-HAM Pictures
Two Disk Set
"ADULT PICTURES"
WITH PLAYER
The Digital Pub/257 **$35**
1033 Peachtree St. NE, Atlanta, GA 30309
You must sign a statement that you are 18 or older!

Fred Fish Disks $2.00!

$2.00 each for five or more. $2.50 each for less than five.

We also carry a wide selection of other Public Domain, bulk disks, and hardware.

For a free disk catalog or to place an order call or write to:
Amy Today. 640 WillowGlen Rd. Santa Barbara, CA. 93105. 805-687-5643

Professional Quality
Fractal Art Cryptography
Scientific Software

NEW! HAMandel3.0 The Premier Amiga Fractal Art System
256 Color Mandelbrot/Julia & MORE! $49.95
NEW! FractalPro Fractal *Animation* - Includes HAMandel3.0
Zoom - Pan - UnZoom - Interactive $89.95
MegageM 1903 Adria Santa Maria CA 93454
Free Catalog - Shipping $2.00 - 6% Tax in California

AMIGA
500 repair $64.00
Prices include parts/labor.
Discount for dealers & schools
Trade your dead 64 for a New 64C for $105.00 (incl. GEOS)

C-128	$57.00	C-64	$34.95
1541/1571 Repair	$40.00	Amiga 1000	$77.00
SX64	$57.00	Amiga 2000	$89.00
PC-10, PC Colt Motherboard	$99.00	All Commodore monitors	$57.00

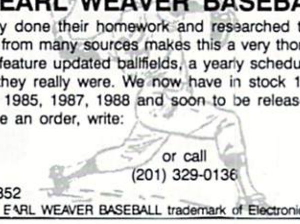
128D — $70.00
Computer Technologies
1313-B Washington Ave.
Titusville, FL 32780
(407) 269-1081
Toll Free 1-800-237-2835
Some restrictions apply.
AUTHORIZED COMMODORE SERVICE CENTER

State-of-the-Art **Add On Hardware**

AM512	(A501) 512K/Real Time Clock, Int. Trap Door, 5 year	**$129.95**
	Lithium Battery (socketed for easy replacement) Øk	**69.95**
AmFLY1	880K External Floppy, Pass Through, Select Switch	**129.95**
	Clickless, +5v Only, Low Power, 28" Cable	
	Optional External Power Plug, Small Size	
AmSCM5	SCSI/2–8 Meg Memory Board for the A500, 68882 @	**Call**
	20MHz, Internal, SCSI Full Auto Boot, Mem. Auto Config.	

Money Back Guarantee Visa/MasterCard/COD/Check
1 yr. Warranty All Products Orders/Information Call: 1-800-735-6661
AmTek, PO Box 575713, SLC, UT 84157 (801) 261-1115

100% Compatible statistics for
EARL WEAVER BASEBALL



YES, someone has finally done their homework and researched the past and present years in Baseball. Using statistics from many sources makes this a very thorough and complete compiled statistic source. We also feature updated ballfields, a yearly schedule and a play calendar so you can play the games as they really were. We now have in stock 1919, 1949, 1952, 1959, 1961, 1969, 1975, 1976, 1978, 1985, 1987, 1988 and soon to be released 1989.

For more info. or to place an order, write:
GMCP SOFTWARE
Suite 52–217
4095 US Route 1
Monmouth Junc., NJ 08852

or call
(201) 329-0136

Disks are $19.95 each
Add $2.50 shipping
Visa/MC add 4%
NJ residents add 6% tax

EARL WEAVER BASEBALL trademark of Electronic Arts

MASTERPIECE PROFESSIONAL FONT COLLECTION©

20 DISK SET
The Largest Collection Of Fonts And Clip Art Available In A Single Package For The AMIGA.

100 DIFFERENT FONT STYLES
This doesn't mean 10 sizes of 11 fonts. It means 110 DIFFERENT Fonts.

LARGES SIZES • HI-RES
Specially Designed For Video Work. 95% of the fonts are over 100 pt. tall. Easily resized smaller.

PATTERN CLIP ART
141 hi-res DPaint II pages. There are thousands of objects and examples.

BRUSHES
2 Disks Full Of Color Brushes

COLORFONTS
4 Disks Full Of Colorfonts

100 PAGE MANUAL
Full Size Font Printouts

20 DISK SET - ONLY $199.00
VISA / MC • COD • Company Check

Contact your local AMIGA dealer or order direct from AROCK Computer Software
PO Box 731, Springfield, MO 65801
1-800-288-AROK

Video Visions
For Amiga Video or Color DTP

Your Software Service

2 Disks per Volume- for IFF Display Programs
See Buyers' Guide for Vol.1-7 Listings

Volumes 2-7 Sold Separate at $24.95 **VV1=$34.95 - Now 4 Disks!**
THE TITLER SET = $79.95 = 11 Disks = VV1, 4, 5, &7 - BT_Scripts, WEDDING, Colorfonts included!
THE ANIMATOR SET = $59.95 = 6 Disks = VV2, 3, & 6 - 3D objects or Cel Animated Parts!
THE STUDIO SET = $199.95 = 19 Disks complete Vision collection plus VHS Tape.
Mini-Volumes = Cool Colorfonts, Borders, Animated Intros, Backdrops =Only $16.95 each.

" NOW UTILIZED IN MANY VIDEO BUSINESSES "

SERVICES INCLUDE: (Custom to Your Specs)
Slide Service - 16M color or Amiga Hi-Res
Desktop Publishing - Manuals or Design Work
Video Animated - Logos at Affordable rates.

CV Designs Video-Slides Transfer Service
CV Designs, 61 Clewley Rd. Medford MA 02155, **617-396-8354**

AUTHORIZED AMIGA SALES & SERVICE

AMIGA
A500 REPAIR $65.00
WE HONOR WARRANTY WORK. WE RESERVE THE RIGHT TO REFUSE WORK ON DAMAGED UNITS. PRICES SUBJECT TO CHANGE.

UPGRADE YOUR AMIGA

8372A (Fatter Agnus)	**$ 99.95**
1.3 ROM (315093-02)	**29.95**
M501 (512K)	**129.95**
8UP w/2 MEG	**425.95**

CALL FOR OTHERS

WE CARRY PARTS, CHIPS, POWER SUPPLIES & ALL OTHER ACCESSORIES FOR YOUR COMMODORE & AMIGA.
(800) 962-4489 AMPEX SYSTEMS, INC. (404) 263-9190
5344 Jimmy Carter Blvd., Norcross, GA 30093

JUST RELEASED AMIGA

AMIGA UPGRADE #1. . . .New 1 MEGABYTE , FATTER AGNUS (#8372) hi-res chip allows user more "chip" memory for use in GRAPHICS, MUSIC or VIDEO. This "plug in" upgrade is an absolute must for present AMIGA owners. Price is $109.50 with instructions.

AMIGA UPGRADE #2. . . .A501/801. 512K/CLOCK RAM BOARD UPGRADE FOR THE AMIGA 500. (Plugs directly into trap door.) Super price of $114.95 with instructions.

AMIGA UPGRADE #3. . . .NEW 1.3 KICKSTART. ROM UPGRADE $27.95/INSTRUCTIONS.

AMIGA UPGRADE #4. . . .68020/16–$74.95, 68881/12–$72.50, 68881/16–$79.95, 68882/12–$105.00

WE STOCK ALL AMIGA (AND COMMODORE) CHIPS AT SUPER LOW PRICES
• SEND FOR CATALOG ON EXCLUSIVE PRODUCTS •

OUR 9th YEAR

THE GRAPEVINE GROUP, INC.
35 CHARLOTTE DRIVE
WESLEY HILLS, NY 10977

1-800-292-7445 (toll free)
Prices subject to change • Commodore is a registered trademark • Dealer pricing available

(914) 354-4448
FAX (914) 354-6696

Hypertext **for the Amiga**

Thinker **$80** Version 1.03 New Features
COD $5
30 day guarantee
No credit cards

HyperText/HyperMedia word processor for the creation and organization of information.
"..stunning capabilities..simple to operate" "power and grace..."
"..superbly crafted.." - Gary Gehman, Amiga Sentry, June 1989
The latest technology combines outline processing and word processing with a multimedia Hypertext engine. Link words, pictures, animations and spreadsheets. Thinker combines database concepts with word processing for maximum creativity.
Poor Person Software, Dept 10, 3721 Starr King Circle
Palo Alto, CA 94306 (415) 493-7234

Tensor Tech

Your Gateway To This Economy Booming Country — TAIWAN

Tensor Technologies Co., Ltd.
3F, # 32, Roosevelt Rd, Sec. 1
Taipei, Taiwan, R.O.C.
Tel: 8862-3214291 | Fax: 8862-3931121

The only authorized AMIGA distributor in TAIWAN

Circle 281 on Reader Service card.

AMIGA P.D. GAMES

Some of the finest Public Domain Games available on the Amiga. Disks include:

CC-702 Graphics Hack: Adventure
Dungeons and Dragons-like game.

CC-703 Entertainment #2
A disk full of games including Monopoly, Life, Gravity, and more.

CC-708 Entertainment #6
More games including 3D Tic-Tac-Toe, Super Breakout, Io Lander, Stoneage!, Boulderdash, clone with sound, more.

CC-709 AMI Arcade #3
Games include Battle Mech, Bullrun, Hearts, Cycles: Tron cycle game, much more.

CC-710 AMI Arcade #4
Great games like Wheel-of-Fortune, Backgammon, Checkers, Orbit 3D, Adventure: Care adventure game, more.

CC-711 Fun & Games
Yet more games: Battleship, Duell 2.0, Lotto 3.0: Lotto database, Bowling: Bowling database.

CC-712 Star Trek: The Game
Two disk graphic version with sound. Requires 1 Meg of RAM and 2 drives.

CC-713 Battle Fort II & More Games
Battlefort: Robotic combat simulation, Video Poker, Tiles: Shanghi-like game, more.

All Disks ONLY $5.00 Each!
Send check or money order to:
Chiron Conceptions, Inc.
PO Box 19474
Jacksonville, FL 32245
Foreign orders add $2.00 per disk for Air Mail delivery.
Free catalog of over 160 P.D. disks available upon request!

Circle 294 on Reader Service card.

LOCATE HARD-TO-FIND SOFTWARE!

ECONOMETRICS - SALES & MARKET FORECASTING - FORECASTING & TIME-SERIES - QUALITY CONTROL - EXPERIMENTAL STATISTICS - BUSINESS STATISTICS - MARKETING STATISTICS - DESCRIPTIVE STATISTICS - MULTIVARIATE ANALYSIS - CLUSTER ANALYSIS - PROJECT PLANNING - DECISION ANALYSIS TECHNIQUES - OPTIMIZATION - BIOMETRICS - REGRESSION - DECISION ANALYSIS TECHNIQUES - LINEAR AND NON-LINEAR PROGRAMMING - RISK & BUSINESS SIMULATIONS - INVENTORY - PARAMETER & TOLERANCE DESIGN - ANOVA - AND MANY OTHERS!

Lionheart produces numerical analysis software of the finest quality. Turn your personal computer into your personal M.B.A. - a keen new, employee at the right price! Gain an edge on the competition!

Prices range from $125 to $145 per title

SEND FOR FREE PRODUCT GUIDE!

Lionheart Press, Inc
PO Box 379, Alburg, VT, 05440
Tel: (514)-933-4918 Fax: (514)-939-3087

Circle 283 on Reader Service card.

PowerMaster X-10 Home Control

Programmed Remote Control Of Lights & Appliances!

- Adds Convenience, Increases Security
- Uses X-10 PowerHouse System
- AREXX Interface
- Amiga Not Required After Programming X-10
- PowerMaster & Amiga X-10 Interface: $79 + $3 s/h

Compplications • 1727 Parkview • Redlands, CA • 92374 • (714)794-5311

FEMME FATALE

THE DIGITAL JIGSAW PUZZLE FOR ADULTS
Only $34.95 ppd. Cont. US

Features 10 full screen digitized images as well as digitized sound. 5 challenging difficulty levels along with hints, full image, status and load & save game options. Use your own low, medium, interlace & hi-resolution IFF images or choose from our stunning library of digitized data disks.

Demonstration disk and discount coupon available for only $2.00.
(Include a signed statement that you're 18+ years old).

GRAPHIC EXPRESSIONS Box 110028 Nutley NJ 07110 - (201)661-0408
NY & NJ add tax. Canadian/Foreign orders add $5.00 for shipping. All prices are in USA Dollars.

35mm COLOR SLIDES

from your IFF or HAM files

• Brilliant Color • No Curvature Distortion
as low as $1/slide
Call or Write for order form, price list & sample

HAMMOND PHOTOGRAPHIC SERVICES
11280 Washington Place
Culver City, Ca. 90230
(213) 390-3010

Public Domain Software Resource

The New Amiga Public Domain Service that lets you ***Choose only the programs you want!*** Hundreds of programs available. Send now for our free catalog!

PDSResource
PO Box 7175, Loma Linda, CA 92354

Only $6.00 per Disk.

norgen – THE GENEALOGY DATABASE

- Dozens of report formats (including Calendars) to printer, screen, or text file
- All variable length fields except for dates
- Repeatable spouse, child, and note fields as needed, plus automatic duplication of sibling fields
- On-screen mouse record searching to 18 generations
- Only one data-entry form required
- Access to Workbench 1.3 via program interface
- Reliable and timely technical support

$99.95 postpaid. For more info call (612) 827-2766 or write to Norris Software Ltd. • 3208 W. Lake St., Ste. 65 • Mpls., MN 55416

Norris Software Ltd.

PELICAN WARE

PO Box 680, South Street, Plattekill, NY 12568
1-800-637-4286

RAM IT!!!

Microbotics Starboard II for the Amiga 500 and Amiga 1000
512K $329.00 1 Meg $409.00 2 Meg $639.00
Call for prices on 8-Up Ram card for Amiga 2000.

MicroEd

Educational Software K thru Adult

ALL CURRICULAR AREAS • INCLUDES RELIGIOUS PROGRAMS
ALSO ENGLISH FOR SPANISH SPEAKERS

MicroEd, Incorporated
PO Box 24750
Edina, MN 55424
612-929-2242

$97,500 A YEAR "HIDDEN IN YOUR COMPUTER?"

Find out! (9 years success.) FREE report.
Write: Ed Simpson
Dept. 771AW, Battle Ground, WA 98604-0771

AmigaWorld is a publication of IDG Communications, the world's largest publisher of computer-related information. IDG Communications publishes over 90 computer publications in 33 countries. Fourteen million people read one or more IDG Communications publications each month. IDG Communications publications contribute to the IDG News Service offering the latest on domestic and international computer news. IDG Communications publications include: ARGENTINA'S *Computerworld Argentina*; ASIA'S *Communications World, Computerworld Hong Kong, Computerworld Malaysia, Computerworld Singapore, Computerworld Southeast Asia, PC Review;* AUSTRALIA'S *Computerworld Australia, Communications World, Australian PC World, Australian Macworld*; AUSTRIA'S *Computerwelt Oesterreich*; BRAZIL'S *DataNews, PC Mundo, Micro Mundo*; CANADA'S *Computer Data;* CHILE'S *Informatica, Computacion Personal*; DENMARK'S *Computerworld Danmark, PC World Danmark*; FINLAND'S *Mikro, Tietoviikko*; FRANCE'S *Le Monde Informatique, Distributique, InfoPC, Telecoms International;* GREECE'S *Micro and Computer Age*; HUNGARY'S *Computerworld SZT, PC Mikrovilage*; INDIA'S *Dataquest*; ISRAEL'S *People & Computers Weekly, People & Computers Bi-Weekly*; ITALY'S *Computerworld Italia*; JAPAN'S *Computerworld Japan*; MEXICO'S *Computerworld Mexico*; THE NETHERLANDS' *Computerworld Netherlands, PC World Benelux*; NEW ZEALAND'S *Computerworld New Zealand*; NORWAY'S *Computerworld Norge, PC World Norge*; PEOPLE'S REPUBLIC OF CHINA'S *China Computerworld, China Computerworld Monthly*; SAUDI ARABIA'S *Arabian Computer News*; SOUTH KOREA'S *Computerworld Korea, PC World Korea*; SPAIN'S *CIMWORLD, Computerworld Espana, Commodore World, PC World Espana, Comunicaciones World, Informatica Industrial*; SWEDEN'S *Computer Sweden, Mikrodatorn, Svenska PC World*; SWITZERLAND'S *Computerworld Schweiz*; UNITED KINGDOM'S *Computer News, DEC Today, ICL Today, LOTUS, PC Business World*; UNITED STATES' *AmigaWorld, CD-ROM Review, CIO, Computer Currents, Computerworld, Digital News, Federal Computer Week, FOCUS Publications, inCider, InfoWorld, Macintosh Today, MacWorld, Computer + Software News, (Micro Marketworld/Lebhar-Friedman), Network World, PC World, Portable Computer Review, Publish!, PC Resource, PCGames, RUN, Windows*; VENEZUELA'S *Computerworld Venezuela*; WEST GERMANY'S *Computerwoche, Information Management, PC Welt, Run, PC Woche, RUN.*

Manuscripts: Contributions in the form of manuscripts with drawings and/or photographs are welcome and will be considered for possible publication. *AmigaWorld* assumes no responsibility for loss or damage to any material. Please enclose a self-addressed, stamped envelope with each submission. Payment for the use of any unsolicited material will be made upon publication. All contributions and editorial correspondence (typed and double-spaced, please) should be directed to *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458; telephone: 603-924-9471. **Advertising Inquiries** should be directed to Advertising Offices, IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458; telephone: 800-441-4403. **Subscription problems or address changes:** Call 1-800-525-0643 (in CO, 1-303-447-9330) or write to *AmigaWorld*, Subscription Dept., PO Box 58804, Boulder, CO 80322-8804. **Problems with advertisers:** Send a description of the problem and your current address to: *AmigaWorld*, 80 Elm St., Peterborough, NH 03458, ATTN.: Sue Kaniwec, Customer Service Representative.

List of Advertisers

* This advertiser prefers to be contacted directly

This index is provided as an additional service. The publisher does not assume liability for errors or omissions.

FYI

If you have any questions or concerns about advertisers in *AmigaWorld*, please contact: **Susan Kaniwec, Customer Service Representative, *AmigaWorld* Magazine, 80 Elm Street, Peterborough, NH 03458. As a service to its readers,** *AmigaWorld* will periodically publish the names of companies who are having difficulties meeting their customer obligations or who have gone out of business. Through our customer service representative, *AmigaWorld* assists readers with problems they may have with advertisers. Readers are advised to contact *AmigaWorld* before dealing with these companies: **Computer Best, FutureSoft Applications. However,** *AmigaWorld* does not assume any liability for advertiser's claims.

To Receive FREE Product Information

AMIGA WORLD

TEAR
out the perforated card. Please print or type your name and address where indicated.

CIRCLE
the numbers on the card that correspond to the reader service numbers on the advertisements that interest you.

ORDER
a one year subscription to AmigaWorld by circling 500 on the card.

MAIL
the card with your check, money order or U.S. currency to:
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170
Or, you may request billing.

LOOK FOR
your subscription in 10 to 12 weeks.

REMEMBER
to put the proper postage on the card.

READER SERVICE

December card valid until February 28, 1990.

☐ Mr.
☐ Mrs.
☐ Ms. Name ______________________
Company ______________________
Title ______________________
Address ______________________
City/State/Zip ______________________
Telephone ______________________

A. Do you own an Amiga?
☐ 1. Yes ☐ 2. No

B. If no, will you purchase one of the following?
☐ 3. Amiga 500
☐ 4. Amiga 2000
☐ 5. Amiga 2500
☐ 6. Other (please specify) ________
☐ 7. I currently have no purchasing plans.

C. Would you purchase an Amiga magazine which had a bound-in disk of demo programs, tutorials, etc.?
☐ 8. Yes ☐ 9. No

D. Which software packages will you purchase in the next 12 months? (Please choose all that apply.)
☐ 10. Entertainment
☐ 11. Word Processing
☐ 12. Communications
☐ 13. Spreadsheets
☐ 14. Home Productivity
☐ 15. Programming
☐ 16. Video
☐ 17. Database Management
☐ 18. Financial Management
☐ 19. Graphics
☐ 20. Education
☐ 21. Music
☐ 22. Animation
☐ 23. Sound/Speech
☐ 24. CAD/CAM
☐ 25. Other

E. Which peripherals will you purchase in the next 12 months? (Please choose all that apply.)
☐ 26. Monitor
☐ 27. Dot Matrix Printer
☐ 28. Modem
☐ 29. Memory Expansion
☐ 30. 3½" Floppy Drive
☐ 31. Hard Disk Drive
☐ 32. Gen Lock or Frame Grabber
☐ 33. Music Hardware
☐ 34. Color Printer
☐ 35. Laser Printer

F. If you are not a subscriber, please circle 499 on this card.

G. If you would like a one year subscription to AmigaWorld (12 issues), please circle 500 on this card. Each subscription is $29.97. Canada and Mexico $38.97, Foreign Surface, $49.97, Foreign Airmail $84.97 (U.S. Funds Drawn on U.S. Bank). Orders from outside of North America must be prepaid. Please allow 10–12 weeks for delivery.

1	6	11	16	21	201	206	211	216	221	401	406	411	416	421
2	7	12	17	22	202	207	212	217	222	402	407	412	417	422
3	8	13	18	23	203	208	213	218	223	403	408	413	418	423
4	9	14	19	24	204	209	214	219	224	404	409	414	419	424
5	10	15	20	25	205	210	215	220	225	405	410	415	420	425
26	31	36	41	46	226	231	236	241	246	426	431	436	441	446
27	32	37	42	47	227	232	237	242	247	427	432	437	442	447
28	33	38	43	48	228	233	238	243	248	428	433	438	443	448
29	34	39	44	49	229	234	239	244	249	429	434	439	444	449
30	35	40	45	50	230	235	240	245	250	430	435	440	445	450
51	56	61	66	71	251	256	261	266	271	451	456	461	466	471
52	57	62	67	72	252	257	262	267	272	452	457	462	467	472
53	58	63	68	73	253	258	263	268	273	453	458	463	468	473
54	59	64	69	74	254	259	264	269	274	454	459	464	469	474
55	60	65	70	75	255	260	265	270	275	455	460	465	470	475
76	81	86	91	96	276	281	286	291	296	476	481	486	491	496
77	82	87	92	97	277	282	287	292	297	477	482	487	492	497
78	83	88	93	98	278	283	288	293	298	478	483	488	493	498
79	84	89	94	99	279	284	289	294	299	479	484	489	494	499
80	85	90	95	100	280	285	290	295	300	480	485	490	495	500
101	106	111	116	121	301	306	311	316	321	501	506	511	516	521
102	107	112	117	122	302	307	312	317	322	502	507	512	517	522
103	108	113	118	123	303	308	313	318	323	503	508	513	518	523
104	109	114	119	124	304	309	314	319	324	504	509	514	519	524
105	110	115	120	125	305	310	315	320	325	505	510	515	520	525
126	131	136	141	146	326	331	336	341	346	526	531	536	541	546
127	132	137	142	147	327	332	337	342	347	527	532	537	542	547
128	133	138	143	148	328	333	338	343	348	528	533	538	543	548
129	134	139	144	149	329	334	339	344	349	529	534	539	544	549
130	135	140	145	150	330	335	340	345	350	530	535	540	545	550
151	156	161	166	171	351	356	361	366	371	551	556	561	566	571
152	157	162	167	172	352	357	362	367	372	552	557	562	567	572
153	158	163	168	173	353	358	363	368	373	553	558	563	568	573
154	159	164	169	174	354	359	364	369	374	554	559	564	569	574
155	160	165	170	175	355	360	365	370	375	555	560	565	570	575
176	181	186	191	196	376	381	386	391	396	576	581	586	591	596
177	182	187	192	197	377	382	387	392	397	577	582	587	592	597
178	183	188	193	198	378	383	388	393	398	578	583	588	593	598
179	184	189	194	199	379	384	389	394	399	579	584	589	594	599
180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

READER SERVICE

December card valid until February 28, 1990.

☐ Mr.
☐ Mrs.
☐ Ms. Name ______________________
Title ______________________
Address ______________________
City/State/Zip ______________________
Telephone ______________________

A. Do you own an Amiga?
☐ 1. Yes ☐ 2. No

B. If no, will you purchase one of the following?
☐ 3. Amiga 500
☐ 4. Amiga 2000
☐ 5. Amiga 2500
☐ 6. Other (please specify) ________
☐ 7. I currently have no purchasing plans.

C. Would you purchase an Amiga magazine which had a bound-in disk of demo programs, tutorials, etc.?
☐ 8. Yes ☐ 9. No

D. Which software packages will you purchase in the next 12 months? (Please choose all that apply.)
☐ 10. Entertainment
☐ 11. Word Processing
☐ 12. Communications
☐ 13. Spreadsheets
☐ 14. Home Productivity
☐ 15. Programming
☐ 16. Video
☐ 17. Database Management
☐ 18. Financial Management
☐ 19. Graphics
☐ 20. Education
☐ 21. Music
☐ 22. Animation
☐ 23. Sound/Speech
☐ 24. CAD/CAM
☐ 25. Other

E. Which peripherals will you purchase in the next 12 months? (Please choose all that apply.)
☐ 26. Monitor
☐ 27. Dot Matrix Printer
☐ 28. Modem
☐ 29. Memory Expansion
☐ 30. 3½" Floppy Drive
☐ 31. Hard Disk Drive
☐ 32. Gen Lock or Frame Grabber
☐ 33. Music Hardware
☐ 34. Color Printer
☐ 35. Laser Printer

F. If you are not a subscriber, please circle 499 on this card.

G. If you would like a one year subscription to AmigaWorld (12 issues), please circle 500 on this card. Each subscription is $29.97. Canada and Mexico $38.97, Foreign Surface, $49.97, Foreign Airmail $84.97 (U.S. Funds Drawn on U.S. Bank). Orders from outside of North America must be prepaid. Please allow 10–12 weeks for delivery.

1	6	11	16	21	201	206	211	216	221	401	406	411	416	421
2	7	12	17	22	202	207	212	217	222	402	407	412	417	422
3	8	13	18	23	203	208	213	218	223	403	408	413	418	423
4	9	14	19	24	204	209	214	219	224	404	409	414	419	424
5	10	15	20	25	205	210	215	220	225	405	410	415	420	425
26	31	36	41	46	226	231	236	241	246	426	431	436	441	446
27	32	37	42	47	227	232	237	242	247	427	432	437	442	447
28	33	38	43	48	228	233	238	243	248	428	433	438	443	448
29	34	39	44	49	229	234	239	244	249	429	434	439	444	449
30	35	40	45	50	230	235	240	245	250	430	435	440	445	450
51	56	61	66	71	251	256	261	266	271	451	456	461	466	471
52	57	62	67	72	252	257	262	267	272	452	457	462	467	472
53	58	63	68	73	253	258	263	268	273	453	458	463	468	473
54	59	64	69	74	254	259	264	269	274	454	459	464	469	474
55	60	65	70	75	255	260	265	270	275	455	460	465	470	475
76	81	86	91	96	276	281	286	291	296	476	481	486	491	496
77	82	87	92	97	277	282	287	292	297	477	482	487	492	497
78	83	88	93	98	278	283	288	293	298	478	483	488	493	498
79	84	89	94	99	279	284	289	294	299	479	484	489	494	499
80	85	90	95	100	280	285	290	295	300	480	485	490	495	500
101	106	111	116	121	301	306	311	316	321	501	506	511	516	521
102	107	112	117	122	302	307	312	317	322	502	507	512	517	522
103	108	113	118	123	303	308	313	318	323	503	508	513	518	523
104	109	114	119	124	304	309	314	319	324	504	509	514	519	524
105	110	115	120	125	305	310	315	320	325	505	510	515	520	525
126	131	136	141	146	326	331	336	341	346	526	531	536	541	546
127	132	137	142	147	327	332	337	342	347	527	532	537	542	547
128	133	138	143	148	328	333	338	343	348	528	533	538	543	548
129	134	139	144	149	329	334	339	344	349	529	534	539	544	549
130	135	140	145	150	330	335	340	345	350	530	535	540	545	550
151	156	161	166	171	351	356	361	366	371	551	556	561	566	571
152	157	162	167	172	352	357	362	367	372	552	557	562	567	572
153	158	163	168	173	353	358	363	368	373	553	558	563	568	573
154	159	164	169	174	354	359	364	369	374	554	559	564	569	574
155	160	165	170	175	355	360	365	370	375	555	560	565	570	575
176	181	186	191	196	376	381	386	391	396	576	581	586	591	596
177	182	187	192	197	377	382	387	392	397	577	582	587	592	597
178	183	188	193	198	378	383	388	393	398	578	583	588	593	598
179	184	189	194	199	379	384	389	394	399	579	584	589	594	599
180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

READER SERVICE

To Receive FREE Product Information

AMIGA WORLD

TEAR
out the perforated card. Please print or type your name and address where indicated.

CIRCLE
the numbers on the card that correspond to the reader service numbers on the advertisements that interest you.

ORDER
a one year subscription to AmigaWorld by circling 500 on the card.

MAIL
the card with your check, money order or U.S. currency to:
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170
Or, you may request billing.

LOOK FOR
your subscription in 10 to 12 weeks.

REMEMBER
to put the proper postage on the card.

READER SERVICE

PLEASE USE FIRST CLASS LETTER POSTAGE

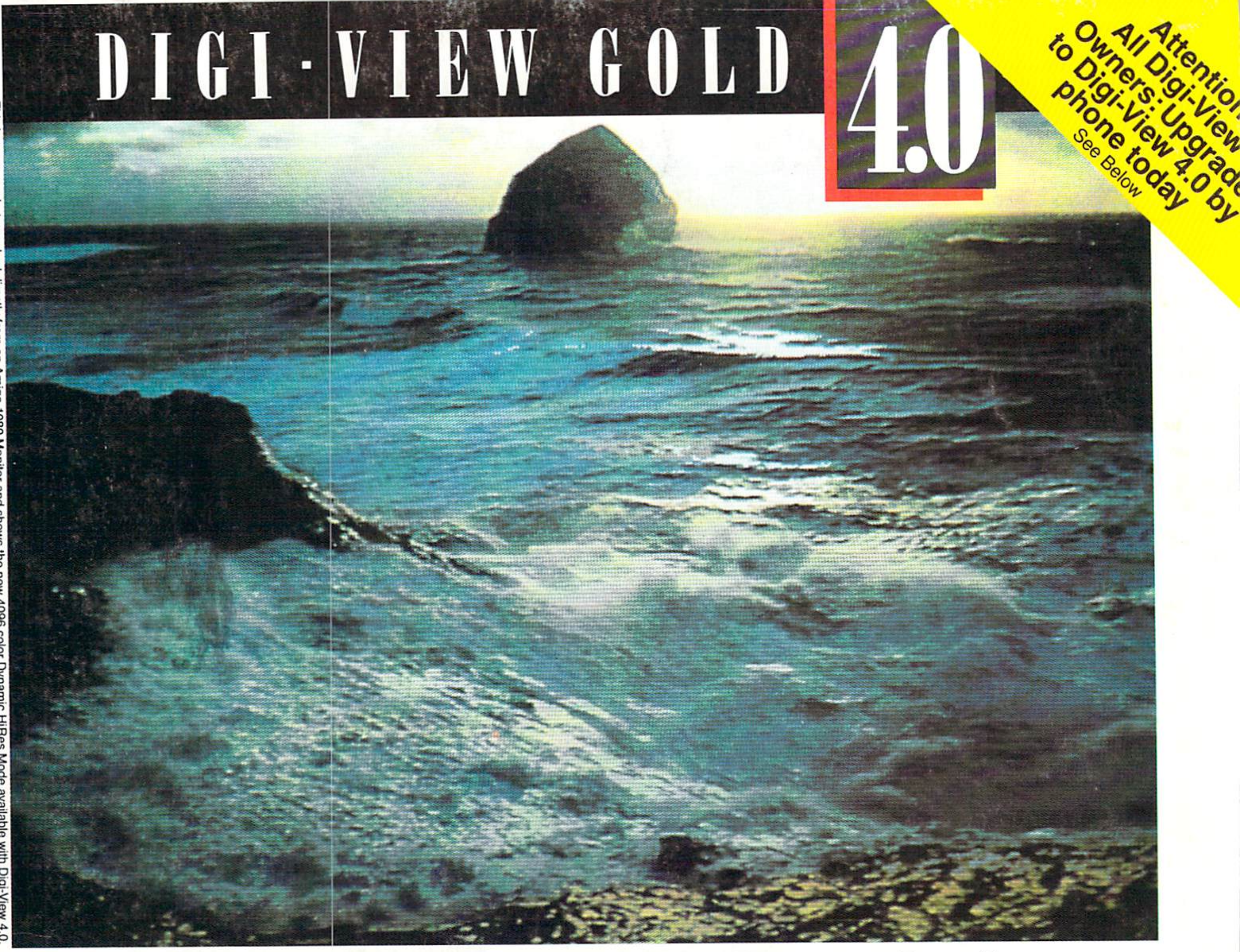
AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170

PLEASE USE FIRST CLASS LETTER POSTAGE

AmigaWorld
Reader Service
Management Department
P.O. Box 5170
Pittsfield, MA 01203-5170



Take a Close Look at the Master-3A
AMIGA
NumL
ScrL
PrtSc
Home
Pg Up
Pg Dn
Del
Introducing the
MASTER-3A
100% AMIGA® COMPATIBLE
3½" Compatible Disk Drive
Inside the incredibly small Master-3A is a powerhouse of advanced technology for your Amiga.®
☐ Full 1 Year Warranty
☐ Extremely quiet operation
☐ Double sided/double density 1 MB capacity
☐ Durable metal case eliminates radio frequency interference and drive noise
☐ Pass through connector lets you easily add additional drives
☐ Extra long shielded input cable (28") lets you position drive where you want it
☐ Spring loaded door keeps out dust
☐ Smaller, slimmer design (4"w X 1¼"h X 9"d)
☐ Consumes less power
For an even closer look at the Amiga® compatible Master-3A, phone your nearest dealer:
Computer Direct (IL) (312) 382-6811 (800) 289-9473
ComputAbility (WI) (414) 357-8181 (800) 558-0003
TENEX Computer Express (IN) (219) 259-7051 (800) PROMPT 1
Oceanic
Distributed by
Konyo International, Inc. Outside CA 800-356-5178 / Inside CA 714-633-1026 / FAX 714-633-5339
Amiga is a registered trademark of Commodore - Amiga, Inc.
Circle 117 on Reader Service card.
Dealer Inquiries Invited



This image was photographed directly from an Amiga 1080 Monitor and shows the new 4096 color Dynamic HiRes Mode available with Digi-View 4.0.

4096 Colors in High Resolution

Digi-View Gold, the best video digitizer for the Amiga, just got one hell of a lot better. With the all new Digi-View 4.0 software you can do the one thing most people thought was impossible—digitize and display all 4096 colors in high resolution! We call this revolutionary new graphics mode Dynamic HiRes and you will have to see it on your own screen to believe it. But that's just the start of what makes Digi-View 4.0 a breakthrough. Other new features include: Dynamic HAM (fringe free HAM), Noise Reduction (for the sharpest images ever), ARexx support, super bitmap digitizing (directly into Digi-Paint 3), 24 bit color support, 68020 compatibility and dozens of other new features making Digi-View Gold the hottest Amiga graphics product ever.

It's still just as easy to use as before. Simply focus your video camera on any object or picture, and in seconds Digi-View Gold turns it into Amiga graphics that glow with vibrant color and stunning clarity. Whether you are creating graphics for desktop publishing, presentations, video, or just for fun, Digi-View Gold gives you dazzling images with amazing simplicity.

Digi-View Gold is designed specifically for the Amiga 500, 2000, and 2500, and plugs directly into the parallel port. With complete software control of color saturation, brightness, sharpness, hue, resolution, and palette, advanced image processing is as easy as adjusting the controls on your television.

If you want the best graphics possible for your Amiga, then you need the best selling video digitizer of all time: Digi-View Gold.

Only Digi-View Gold:

- Can digitize in all Amiga resolution modes from 320x200 up to 768x480 (full-HiRes overscan)
- Uses 2 to 4096 colors (including extra halfbrite)
- Uses exclusive Dynamic modes for 4096 colors in HiRes
- Is 100% IFF compatible and works with any graphics software
- Can digitize in 21 bits per pixel (2.1 million colors) for the highest quality images possible
- Has advanced dithering routines that give an apparent 100,000 colors on screen simultaneously
- Has powerful image processing controls for complete IFF picture manipulation

Digi-View and Digi-View Gold owners easy upgrade: Upgrade to the incredible new Digi-View 4.0 software just by sending your name, address and $24.95 + $6.00 for shipping and handling ($30.95 total) to NewTek Digi-View 4.0 upgrade, 115 West Crane St., Topeka, KS 66603. If you have a Visa or Mastercard call our toll free order line at 1-800-843-8934 and we'll rush your upgrade to you immediately.

Only $199.95

Digi-View Gold is available now at your local Amiga dealer.
Or call 1-800-843-8934.

NewTek
INCORPORATED

*Requires standard gender changer for use with Amiga 1000. Digi-View Gold, Digi-Paint 3 and Video Toaster are trademarks of NewTek, Inc. Give a man a VCR and he can watch reruns, give him a Video Toaster and he can make his own!

Circle 119 on Reader Service card.